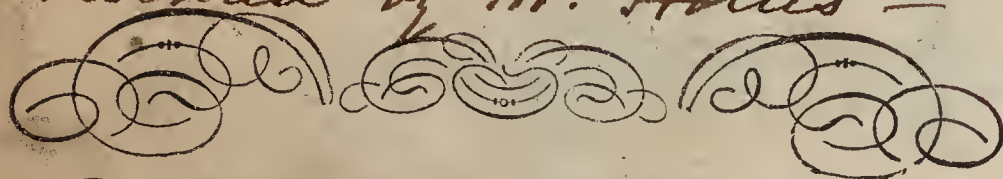
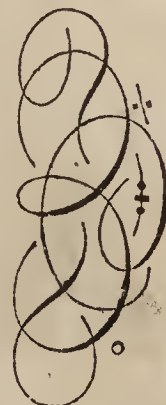
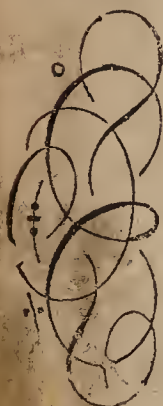


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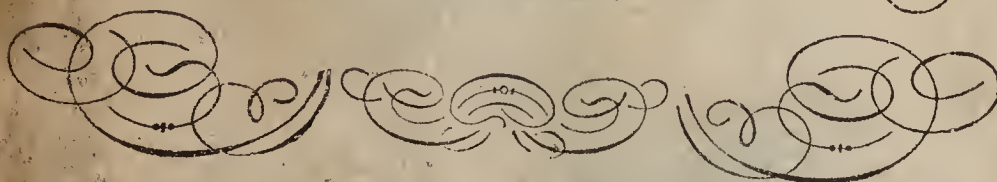


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THE
INSTITUTIONS
OF THE
PRACTICE OF MEDICINE;

DELIVERED

IN

A COURSE OF LECTURES

BY

JO. BAPTIST BURSERIUS,

DE KANIFELD.

TRANSLATED FROM THE LATIN,

BY WILLIAM CULLEN BROWN, M. D.

EXTRAORDINARY MEMBER, AND LATELY ONE OF THE ANNUAL PRESIDENTS
OF THE ROYAL MEDICAL SOCIETY OF EDINBURGH.

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1806.



CONTENTS.

PART III.

<i>Of Remittent Fevers,</i>	-	-	Pag. 1
<i>The Continued Quotidians,</i>	-		7
<i>The Continued Quotidian of the Ancients,</i>			ib.
<i>The Catarrhal Fever,</i>	-	-	21
<i>The Milk-Fever of Puerperal Women,</i>			47
<i>The Acute Gastric Fever,</i>	-		68
<i>The Continued Tertian and Causus,</i>		-	128
<i>Remittent Fevers which observe sometimes the Quotidian, sometimes the Tertian Type,</i>	-	-	149
<i>The Puerperal Fever of the Moderns,</i>			176
<i>The Continued Quartan, or Tetartophya,</i>			266

PART IV.

<i>Concerning the Compound Continued Fevers, or</i>			
<i>The Proportionate,</i>	-	-	273
<i>The Semitertiana, or Hæmitritæus,</i>			276
<i>The Proportionata composed of the Synochus and Intermitting Fever,</i>	-		281

<i>Appendix to the Remitting Fevers which observe sometimes the Quotidian, sometimes the Ter- tian Type,</i>	-	-	Pag. 289
<i>The Primary, or Essential Colliquative Fever,</i>			ib.
CHAP. I.— <i>Concerning the Febrile Exanthematic Diseases in general,</i>	-		309
CHAP. II.— <i>Of Erysipelas,</i>	-		327
CHAP. III.— <i>Of the Ignis Sacer, called Zoster, or Zona,</i>	-	-	357
CHAP. IV.— <i>Concerning the Scarlet Fever,</i>			375
CHAP. V.— <i>Of the Nettle-rash,</i>	-		429
CHAP. VI.— <i>Of the Effera of Vogel,</i>	-		436
CHAP. VII.— <i>Of the Pemphix of Modern Au- thors, or the Morbus Phlyctænoides,</i>			438
CHAP. VIII.— <i>Of the Measles,</i>	-		444

ERRATA.

Pag. Lin.

<i>For</i> mucus	8.	6. <i>Read</i> mucous
— lenter	8.	10. — lensor
— exertion	8.	16. — excretion
— operient	16.	10. — aperient
— Lovry	46.	18. — Lorry
<i>In</i>	55.	2. <i>Dele</i> to
<i>For</i> metastasis	64.	5. <i>Read</i> metastases
<i>In</i>	66. <i>in the side-note at the bottom, instead of</i> V. S. causes revulsion from the foot. <i>Insert</i> , V. S. from the foot causes revulsion from the uterus.	
<i>For</i> upon	71.	23. <i>Read</i> in
<i>After</i> although	79.	22. <i>Insert</i> that
— Cyprus	100.	26. — wine
<i>For</i> fracastorii	102.	11. <i>Read</i> Fracastorii
— addicted	133.	3. — accustomed
<i>In</i>	137.	5. to 18. <i>Dele</i> the quotation-points
<i>For</i> femicubium	142.	10. <i>Read</i> femicupium
— ate	213.	14. — eaten
<i>In</i>	251.	<i>last</i> , <i>Dele</i> that
<i>For</i> puerperal fever	265.	12. <i>Read</i> puerperal women
— paroxysms	283.	21. — paroxysm
<i>In the folio, from</i>	288. to 305.	<i>For</i> Compound Continued Fevers. <i>Read</i> Of the Colliquative Fever.
<i>From</i>	309. to 320.	<i>let the running-title be</i> , Of Exanthematic Febrile Diseases.
<i>For</i> sparingly	349.	10. <i>Read</i> liberally
— mucus	351.	10. — noxious
— dislimy	432.	12. — slimy
— malignant	439.	12. — benign

PART III.

OF

REMITTENT FEVERS.

324. **R**EMITTENTS hold an intermediate rank, as it were, betwixt *intermitting* (64) and *continent* (194) fevers; for they neither have any apyrexia, nor do they proceed in an uninterrupted course, but are characterised by several more manifest accessions than those of *continents*, until they attain a perfect solution. For they are aggravated at stated periods, fresh accessions come on, and, a few hours afterwards, they gradually remit. With these alternate exacerbations and remissions they go through their different stages, without leaving any intermission from fever between such paroxysms. Hence they are by some named *compound*, by others *continuæ proportionales*, or *conti-*

nuæ, periodicæ, on account of their going through several courses similar to the periods of *intermittents*, or *continua in specie* *, and by the Greeks they are called *συνεχέες*, and *συνεχῆς*. Morton † chose to name them *continent fevers*, using the term in an entirely different sense from its common acceptation. But by most they are denominated, with more propriety, *remittents*.

* Sennert. de Febr. l. 2. c. 13.

† Oper. t. 2. de Febris exercit. 2. c. 3.

325. The principal distinctions of these fevers are derived from the manner and time of their exacerbation. Hence some are named *quotidian*, others *tertian*, or *quartan remittents*, as well as *simple*, *double*, or *triple*, *erratic* and *vague*. Some refer to the class of *remittents*, the *subcontinua* (69. 71.) and *subintrantes* (71.) of Torti, and such as are composed of the continued and intermitting fever, or continued fevers of various kinds combined together, and those which are more properly named by myself and others *proportionata*. But as we have already treated of the true *subcontinua* and *subintrantes*, which in their origin and nature are clearly referable to intermitting fevers, and as it seemed more adviseable to distinguish the *proportionata*, or *complicata*, and *complexa*, from the rest, and give them a separate discussion; we shall here confine ourselves entirely to the investigation of the genuine remitting fever.

326. For true remittents, in their very nature, even from the beginning, are continued, and, according to some, constitute a particular genus of *spurious continents*. For each paroxysm, especially in winter, commences with unusual heat*, a tendency to sleep, head-ach, or at least heaviness of the head, flushing of the face, and a gradual increase of the pulse in fulness and violence. While the remissions take place more obscurely, since during them the pulse subsides little, the heat is little diminished, there is no sweat, or at least scarcely any can be perceived, and no other favourable excretion takes place. On the contrary, the *subcontinuae*, and those which, on account of their anticipating the paroxysms and their greater duration, become *subintrantes*, as they are called, intermit from the beginning, afford more evident symptoms both of their accession and remission, and after a discharge of sweat and urine, either in great quantity, or with the lateritious sediment, become mild, and require no other method of treatment, than such as is accommodated to true intermittents, from whence they are derived. Lastly, the *proportionatae* differ from remittents, on account of the greater constancy of their continuance, and violence of their degree, than those of the *subcontinuae* and *subintrantes*, yet the nature of their periods is

Remittents compared with other similar diseases.

more manifest than that of simple *remittents*. Besides, remittents generally become milder in the morning, and are aggravated only at mid-day, or towards evening; which is by no means so invulnerable in the *subcontinuae*, *subintrantes*, and *proportionatae*; because their courses do not return at any particular period, but sometimes at one time, sometimes at another.

* It is proper to remark, however, that although the accessions of remitting fevers generally commence with unusual heat, as we have already observed, upon the first, and sometimes on the second day, they begin with cold and shivering, as commonly happens in most other continued fevers which are at all severe. Nay, sometimes, not only at their beginning, but as they advance, shivering fits occur, and return irregularly for some days, till at length they disappear. In the quotidian remittent of the autumn and winter of the year 1782 and 1783, which proved tedious, being often protracted for forty days, about the seventeenth or twentieth day of the disease, sometimes sooner, sometimes later, such cold shiverings came on, not only at the beginning of the exacerbations, but also in their progress, being frequently accompanied with a spasmodic constriction of the fauces and chest, coming and going for several days, but without proving fatal.

327. The material cause, as it is called, of these fevers, seems to be nearly the same Cause. as that of the *continent* fevers, but somewhat more sparing, or unequal, so as to be neither so great nor such as to be capable of supporting the same febrile motion with equal force and uniformity; whether that proceeds from the place in which it originates, or from the manner in which it passes into the blood, or from

its successive and periodical evolution, or from whatever other circumstance. But I must not omit to mention, that some are fully of opinion that such a cause in its nature approaches not a little to that from which intermittents proceed; on account of having sometimes observed *remittents*, after continuing for some time, lose their continued form, and gradually become *intermittents*. When they are thus changed, however, it seems more probable, that they have been the fevers called *proportionatæ*, than simple *remittents*; since the latter probably never were observed to pass into real intermittents, or if they gradually become like them, still they obstinately resist the bark,—which they would not do, were they true intermittents,—and thus no inconsiderable distinction intervenes betwixt their proximate cause.

328. It therefore appears most probable, that either from a colluvies of the *primæ* Conjectures.
viæ, or from vitiation of the fluids,
 or from the conglobate glands and whole lymphatic system, or from the interstices of the cellular texture, something is occasionally introduced into the blood, by which these fevers are not only excited, but cherished, and now and then recur with fresh accessions. Besides, according to the diversity of the remote causes, which shall be enumerated in due time, according to the Differences.
 difference of age, temperament, ha-

bit, and other concurring circumstances, these fevers may be *benign* or *malignant*; *pure*, *simple*, *periodical*, *regular*; or *anomalous*, *erratic*, and *complicated*; *gastric* or *venous*; *bilious* or *sanguineous*; *putrid* or *inflammatory*; or *lymphatic*, and *catarrhal*, and *variously complicated**. It is not my intention, however, to treat of them all; for it would be an endless task to give them a separate discussion, according to the diversity of their causes, and peculiarity of habits which they attack. But I shall rest satisfied with adducing the principal kinds, that both the diagnosis and the cure of the others, may be in some measure facilitated.

* I cannot omit to mention, that Dr Buchan (Dom. Med, T. 2. c. XI.) has spoken of the *remitting fever* as being a peculiar *genus*, not a distinct class, of fevers. But he seems to have confounded the various species, or at least to have principally described the *proportionata*, which I have already pointed out; as I shall shew when I come to speak particularly of the *febres proportionata* or *complicata*.

CONTINUED QUOTIDIANS ;

AND FIRST,

THE CONTINUED QUOTIDIAN OF THE
ANCIENTS*.

329. THE continued quotidian, in the Arabian language named *latica*, on account of the latent heat which it cherishes, experiences an exacerbation or remission daily ; but, until the disease be entirely overcome, it never leaves any intermission between the paroxysms, which, in point of violence, and in the manner and time of their attack, are usually perfectly similar to each other. It affects people of a phlegmatic habit, those advanced in life, boys, infants, and women of a humid constitution, and is particularly apt to attack the indolent and luxurious, devoted to much indulgence in sleep, or such as live on a hard crude kind of food, those who dwell in marshy situations, or are of a corpulent and pituitous habit of body. Hence, perhaps, it happened that the an-

Description.

The material
cause.

cients derived it from phlegm accumulated and putrefying in the blood, and therefore generally named it *febris pituitosa* or *phlegmatica*. Nor does the opinion of the moderns differ much from that of the ancients, since they have referred it to a mucus and viscid colluvies overwhelming the primæ viæ and the rest of the system, and which has acquired a certain degree of acrimony or corruption. Hence whatever may increase the quantity, lenter, or tenacity of the serum and lymph, or induce laxity and atony of the fibres, or retard the motion of the aqueous fluids, is considered by them in the light of a remote and predisposing cause. Such are particularly old age, a phlegmatic temperament, the winter season, suppressed perspiration, or the checked exertion of any pituitous humour, a watery, cold diet, and the like.

* *Synonyms.* The quotidiana continua of Sennert. de Febr. l. 2. c. XIV. and of most authors. The febris phlegmatica periodica of Avicenna, de Febr. c. 46. The febris phlegmatica, or amphimerina, or continued quotidian of Nicolaus Nicolaus de Febr. The quotidiana in specie of Ettmuller, oper. T. 2. Colleg. Pract. p. 357. The febris lymphatica primaria of Ettmuller, Colleg. Consult. cas. XXXI. p. 1459 (a). The amphimerina of Sauvages, Nosol. Meth. cl. 2, ord. 2. Gen. IV.

(a) There are two kinds of primary lymphatic fevers, according to Ettmuller; of which the one arises spontaneously without being preceded by any other disease, the other supervenes on convalescence from other diseases, particularly intermittents of long standing, in consequence of too full diet having been employed. They are both extremely similar to the continued

quotidian of the ancients, and are derived from viscid, and, as he says, acid lymph; or, what amounts to the same thing, from sluggish, crude, badly prepared fluids, namely, such as are of a pituitous kind, and are removed by the same kind of treatment.

THE DIAGNOSIS.

330. Besides the uniformity of the heat and fever, and the manifest aggravation of the symptoms in the evening, and remission in the morning, it is peculiar to this fever to commence without cold and shivering, and to remit without sweat. Hence it is easily distinguished from the *subcontinua* and *subintrantes*, or even from certain of those fevers called *proportionatae*. And if ever, at the coming on of the disease, any sense of cold is felt, or any sweat is perceived during the remissions, they are certainly both very slight; so that the former rather resembles slight chilliness of the feet, or surface of the body, and the latter partial moisture affecting the head, neck, or some other part; nor do they occur in every instance. The heat at first to the touch feels mild, but, on applying the hand longer, somewhat acrid and unequal. The pulse, although always frequent and febrile, is found to be slower and weaker than in other acute and continued fevers. The face is somewhat swollen, and appears lax and rather livid.

There is a propensity to sleep. The urine, as Riverius assures us, is passed at first white, watery, and turbid, afterwards thick and reddish, but not so much so as in more acute fevers. The thirst does not prove distressing, unless a peculiar acrimony of the fluids, or such thickness of the lymph, or lentor of the blood, be present, that in consequence of diminution or depravation of the secretion of saliva, the mouth and fauces become dry, when the tongue is frequently covered with a white and viscid mucus. Nor, lastly, are the other febrile symptoms more severe.

331. Such are the symptoms peculiar to the pure and regular quotidian. But if the inflammatory diathesis, or bad chylication, or malignity, be combined with the fever, the symptoms are necessarily somewhat varied. In

The variation in the symptoms when it is combined.

the first case, the pulse is stronger, fuller, quicker, and harder; the heat and thirst are more distressing; the face is redder; the urine deeper-coloured; the respiration more oppressed and difficult; and there is a throbbing pain in the head, and sometimes watching, at least during the first days, which render the complaint more acute. That happens chiefly in certain constitutions liable to inflammatory affections, in those of the sanguineous temperament, and in the prime of life. But if this fever be attended with pains in the head, neck, or legs, or in any other part, as the arm, shoulder,

or hand, and be aggravated during the paroxysms, because it then seems to partake somewhat of rheumatism, the name of *rheumatica*, or *rheumatismatica*, is bestowed upon it, and not improperly. In the second case, the taste of the mouth is vitiated, or becomes bitter; the patient is troubled with loathing of food, nausea, or vomiting, frequent eructations and flatulency. The hypochondria and epigastrium become swelled, oppressed, and affected with borborigmi; the face and eyes are yellow; the belly is frequently loose, and very fetid stools are passed. In the third case, the strength is greatly reduced without any manifest cause, the pulse is irregular, *subsultus tendinum*, confusion of mind, and distressing dreams, occur, while the fever appears to be slight; the heat mild, the urine natural, and so forth. But in order to guide our judgment the better, we must pay particular attention both to any miasmata that may have been imbibed, and to the nature of the epidemic. When, however, from such symptoms we discover any thing of a malignant nature in it, in that case it scarcely differs from the *malignant remittent*, called *nervous*, of which we shall say more hereafter (436), and therefore may be considered as one and the same complaint. But the remaining differences (328) will easily be discovered by attending to the marks we have already more than once laid down.

332. But as the *continued quotidian* proceeds slowly, and both in duration and gentleness of symptoms may sometimes put on the appearance of hectic fever, if not primary, at least symptomatic; we shall now point out in what manner the diagnosis between them may be formed. In hectic fever, then, the heat, which is otherwise uniform, is increased on taking food, and a few hours afterwards returns to its former condition. While in the quotidian, even though no food has been taken, or a long time has elapsed since the taking of it, it is aggravated only in the evening, and continues to increase until midnight, when it gradually remits, and in the morning appears perfectly mild. In hectic the pulse is often hard and small; in the quotidian it is soft and full. In the former the skin is wan and dry; which is by no means the case in the latter. Primary hectic resembles the nature of *continent* fevers, the continued quotidian that of *remittents*; and although the former, when it is symptomatic, in its accessions and remissions approximates more nearly to the quotidian form, it is far removed from it by the irregularity of its type, and the presence of another disease to which it succeeds, or which it accompanies. I will grant, however, if the matter be still urged, that it is generally an amphimerina, or continued quotidian, but of the

symptomatic and vague kind. Lastly, hectic is preceded by causes of a very heating and drying kind; while the quotidian succeeds to those which are cooling, relaxing, and increase humidity.

THE PROGNOSIS.

333. This fever, for the most part, is found to be tedious and difficult of cure, nor is it altogether void of danger. The more the body abounds with sluggish and thick humours, the more tenacious these fluids are, the more copiously they infect the blood, or fill and obstruct the small vessels, or the more intimately they are collected and stagnate in the glands, cells, and membranes; the more lasting does the fever prove, and the more obstinately does it resist the powers of art. Hence the period of its termination is uncertain. For it is sometimes finished on the fortieth, at other times on the sixtieth day. Sometimes it is extended even beyond these bounds. The beginning of the disease, therefore, reaches nearly to the twentieth day. That one which proceeds more slowly and mildly, and which is excited by no corruption, or acrimony of the fluids, or mixture of bile, according to the ancients, is generally of longer duration; while that terminates more quickly, in which

several evacuations occasionally take place. But the difference of the danger is caused by the symptoms themselves. For if, at the very beginning of the complaint, there is prostration of strength, and want of appetite, as the patients then seem incapable of supporting the continuance of the fever, a fatal termination may then be dreaded; which will still more certainly occur, if to the prostration of strength and want of appetite are superadded longer continued and more severe paroxysms, and deeper sleep. For we may thence conclude, that not only the sensibility of the stomach is blunted by the collection of phlegm, but that the brain itself is overwhelmed with its abundance. But when none of these symptoms are observed, there is reason to expect a favourable termination of the disease. The malignant and epidemic species, and that combined with symptoms of putrefaction, are more fatal than the benign, sporadic, and pure kind. Nay, it may then cut off the patient within its usual time. Not unfrequently by continuing, it gives rise to obstructions of the liver, cachexy, and dropsy, or it passes into secondary hectic, to which that kind is more prone, and occasions greater danger, which is combined with a taint of any of the viscera, or with another particular complaint.

THE CURE.

334. Since in this fever there is too great a quantity of phlegm present, the lymph is too sluggish and thick, and there is every where an excessive abundance of stagnant mucus; while the solids are in a state of laxity and atony; it is evident, that the former must be attenuated, resolved and excreted, and the latter excited and strengthened. Blood-letting is hardly admissible, unless plethora, or the inflammatory diathesis, be present, or the super-vention of some severe symptom require its employment. Scarification affords remarkable relief in the headach or lethargy, together with friction, pediluvium, epispastics, and other revellents. But if the patient be oppressed with very deep sleep, cantharides ought to be applied to the occiput, behind the ears, and to the arms, or legs. For by their means we not only resolve the viscid humour, but likewise derive it elsewhere, cause its excretion, and excite the vital powers themselves.

Indications.

The remedies, bleeding, scarification, friction, the bath, blisters.

335. Purgatives as well at the beginning, as during the progress of the disease, occasionally repeated, both free the *primæ viæ* from the collection of mucus, and attenuate

Purging.

and draw off the rest of it contained in the circulating mass. It is sometimes necessary, however, to prepare it for excretion, by inciding and saponaceous remedies, a practice which is found particularly serviceable when the stomach abounds with tenacious mucus ; or to eject it more expeditiously by emetics ; and also to give, by way of drink, those things which are attenuant, opening, and promote the evacuation of urine and sweat, such as decoctions of operient or slightly aromatic roots, preparations of gently diaphoretic woods, or bitter herbs. The fixed lixivial salts have a very powerful effect in dissolving all glutinous fluids ; after which come the neutral salts, the spirit of hartshorn with amber, spiritus mindereri, together with the volatile spirits and salts, simple oxymel, or that of squills, kermes mineral, and a great many similar compositions. But if the inflammatory diathesis, or malignity, or a poisonous or putrid miasma, be combined with this fever, the treatment must be somewhat varied, as the kind of complication and concomitant symptoms may seem to require. It is then proper to call to mind the rules on this subject already delivered in various parts of this work. The nature of the food also must correspond with the indications. Upon the whole, it must be weak, opening, and gently nourishing ; nor must wine be altogether withheld from the patient.

THE EPIALA OF GALEN *.

336. An occasional peculiarity of the quotidian is, that patients complain of heat and cold at the same time. Galen has named the species in which this happens, *epiala*. Sennert†, again, considers it as being twofold, namely, *true* and *spurious*. He has conceived the genuine epiala to arise from acid and vitreous phlegm, and the spurious one from phlegm and bile blended together. But as their alledged cause is merely hypothetical, this distinction of Sennert's is quite superfluous. It is not agreed, however, among the ancients, how heat and cold can be perceived at the same time. To offer a conjecture, I should be disposed to consider it as being rather a sense of cold, than actual cold. For in consequence of the cutaneous nerves being irritated, and intimately affected with spasm, the idea of cold may be excited in the *sensorium commune* of the patient; such a change being induced in the medullium of the brain as would take place from the application of actual cold to the nerves: and moreover, that a sense of both heat and cold is felt simultaneously, while all the nerves distributed upon the surface of the body are not spasmodically affected at the same time. For, when they are injured, a sense of

A variety of the quotidian described.

heat is necessarily felt in them ; but when spasmodically affected, that of cold.

* De Diff. Feb. 1. 2. c. 6.

† L. c.

337. The epiala is of very rare occurrence. In treating it, the ancients recommended powerful attenuants, inciding remedies and stimulants ; as they imagined the material cause, from which it was supposed to arise, to be unusually thick and glutinous. It appears more probable, however, that in it to the cold lentor is super-added a degree of acrimony, by which the nerves are particularly irritated. But we must employ almost the same treatment which has already been recommended in the cure of the continued quotidian, or *phlegmatic fever* ; although gentle purging is more eligible in the epiala, because the weakness is greater, and the more powerful cathartics are not easily borne. That extent of purging, therefore, which cannot be safely occasioned at one time, may be effected at different times by means of gentle cathartics, which gradually remove the obstructing and irritating cause.

THE FEBRIS SYNCOPALIS HUMOROSA OF AVICENNA *.

338. It may be remarked likewise, that Avicenna has established two varieties of the *febris syncopalis*, namely, the *syncopalis minuta*, and the

syncopalis humorosa; the former arising from the bile, the latter from the phlegm. Each of them is named from the syncope that supervenes on the accessions, and distinguishes this species from the others. The latter, therefore, namely the *syncopalis humorosa*,—since in it, on account of the quantity of the phlegm, and debility of the mouth of the stomach, as the fever came on, patients were supposed to fall into a faint,—because it runs its course in the manner of a quotidian, likewise comes under this head. This was considered as being very difficultly curable, because, in consequence of loss of strength, neither purging nor bleeding are admissible. On which account Galen preferred the mere employment of friction, both to resolve and evacuate the morbid matter. He seems, however, to have allowed the use of clysters and gentle cathartics, and, after diminishing the quantity of vitiated fluids, and thus removing the danger of syncope, that of the inciding remedies, especially oxymel, hyssop, and cinnamon; and, lastly, also purging, as was the practice of the ancients in the continued quotidian from phlegm. But it is proper to remark, that these fevers, whether they be similar to quotidians or tertians, generally belong to the class of intermittents, and chiefly come under the head of the *comitatae perniciosæ* of Torti, and are quickly and successfully removed in the

same way. With regard to regimen, they preferred sparing food, of a light kind, and easily digestible. But for drink, they employed either wine, or beer, or hydromel.

* Lib. 4. Fen. i. c. 53.

SYMPTOMATIC CONTINUED QUOTIDIANS.

339. To the continued quotidian of the ancients, or phlegmatic fever, must be transferred the symptomatic quotidians arising from a morbid state of the conglobate or conglomerate glands, from strumous tumors, scrofula, buboes, rickets, scurvy, cachexy, lues venerea, and others named by Ettmuller *lymphatic*, or divided by Sylvius * into *lymphatic*, *glandular*, *pancreatic*, and *salival*; and likewise all the *slow fevers*, or *symptomatic hectic* (313. 316.), or *phthisical*, as they are commonly called. But the cure of these is partly derived from that of the primary disease, from whence they arise, and partly from the general treatment of the quotidian. There is also a particular kind of quotidian mentioned by Ettmuller †, which is referable to this place. It usually supervenes upon lues, when the disease is aggravated, or when the patients employ sudorific decoctions to an excessive extent. For in syphilis the lymph seems to be too viscid and acrid, and the salivary glands and other parts,

especially about the throat, are affected by it. The fever arising from that cause, although of the lymphatic kind, since it inclines to the inflammatory diathesis, requires bleeding, diluents, correcting remedies, and, lastly, the cautious employment of mercury.

* Prax. Med. l. 1. c. 29. § VI.

† Oper. omn. t. 2. Colleg. Pract. p. 362.

THE CATARRHAL FEVER *.

340. That kind of continued quotidian, with which catarrhal affections of the head, nerves, fauces, and chest are combined, even from the beginning, or which is the immediate effect of them, has universally obtained the name of *catarrhal fever*. Some, however, and especially most of the Germans, have added to this name the mark of *benignity*, denominating it *benign catarrhal fever*, that it may not be confounded with another, named *malignant catarrhal fever*, or *petechizans*, although in my opinion improperly, since, under this appellation, they seem to comprehend an epidemic and malignant fever of an entirely different nature, as I shall shew hereafter. Others, as Gorter and Fracassini, instead of *catarrhal*, have preferred calling it *lymphatic*; on account of its having seemingly arisen from recent ferous and lymphatic congestions and de-

fluctions about the head, fauces, and breast. But by this name they point out another species of quotidian from what Ettmuller meant by the same term. He meant a fever arising from thick and viscid lymph, but unaccompanied by coryza, pain of the throat or fauces, and cough ; while they understood by it a fever, which arose, to be sure, from the same cause, but was attended with all those catarrhal affections. Lastly, some have called it *rheumatic*, from its being constantly combined with a rheum †.

* *Synonyms.* The *Febris catarrhalis benigna* Junckeri. Tab. LXVII. Hoffman. de Febr. sect. 1. c. vi. Ludwig. Institut. Clinic. p. 1. c. 1. *subsect.* 1. sect. 110. The *Febris Lymphatica* Gorteri. *System. Prax. Med.* l. 3. titul. 4. n. 231. The *Febris Lymphatica* Fracassinii. *De Febr. sect.* 3. *De Febr. cont. lent.* c. 2. The *Amphimerina Catarrhalis*, *sp.* 1. of Sauvages. Nosol. cl. 2. ord. 2. Gen. VI. The *Febris Rheumatica* of certain authors. And the *Catarrh* according to others.

† Although this fever, on account of the catarrh, might be ranked among febrile diseases, I rather thought proper, with most authors, to reckon it among the class of fevers ; because it does not always appear sufficiently manifest, whether the catarrh be the primary complaint, or, since so constant and intimate a connection subsists between the catarrh and the fever, it ought rather to be considered as the proximate cause of the fever, and the fever the primary complaint ; as inflammation is the proximate cause of pleurisy, or polypus of palpitation, &c. But I confess, that sometimes catarrh, defluction, and cough, are accompanied by fever, in which case they cannot be referred to fever. I own that they are sometimes also conjoined with fe-

ver, and that it is at one time the effect, and another the principal disease. However that happens, as it is combined with fever, why may it not be ranked among fevers?

THE DIAGNOSIS.

341. The catarrhal fever generally arises in the equinoctial season, especially during the autumnal equinox, and upon remarkable and sudden changes of the weather taking place, attacking many people at the same time. It commences, particularly towards the The Symptoms. evening, rather with repeated chilliness, than cold and shaking, or only with slight coldness of the extremities; and sometimes, when the disease is to turn out mild, it comes on without any symptoms of cold or chilliness. It is for the most part mild, and, after increasing for a few hours, usually abates about midnight. The remission is prolonged not only to the morning, but continues nearly the entire day, until the fever return at its usual hour in the evening. The fever is preceded, or immediately succeeded, by coryza or heaviness, catarrh, sneezing, a running of tears, redness of the eyes, inflammation and pain of the throat, troublesome tickling of the larynx, hoarseness, considerable cough, generally dry, or attended with a slight discharge of thin salivary matter,

rarely mucous and thick, distressing the patient through the whole course of the disease, and disturbing the sleep, weight at the breast, dyspnœa, pain both of the back and all the joints, causing a sense of tension or pungency. With these are frequently conjoined pain or heaviness of the head, debility, universal lassitude, sometimes increased appetite, but more frequently diminution of it, vitiation or defect of the taste, and thirst.

342. It sometimes happens, according to

It sometimes begins with shivering, cold, &c.

Juncker, who is supported by the suffrage of experience, that the fever begins, and returns, at least during the first days, not only with chilliness, shivering, and cold, with which the body is shook half an hour, or a whole one, succeeded by heat at first mild, afterwards becoming more acrid, accompanied with some anxiety about the præcordia, or even an inclination to vomit. But the heat at length becomes so long protracted, that it does not abate until the second morning. This chiefly occurs in plethoric patients, at the commencement of the complaint. The pulse

Nature of the pulse.

varies according to the various stages and violence of the complaint, and the difference of temperaments and habits; it is always quick, however. As the disease advances, copious and fetid sweats break out, especially during the remissions;

The sweat.

a thick phlegm and mucus is discharged from the nose ; a great quantity of concocted white and glutinous matter, sometimes yellow and like pus, is expectorated ; or a diarrhœa supervenes, together with urine depositing a sediment ; by which means the fever is fortunately resolved. Hence the prognosis and true nature of this fever are easily discovered. For, as Juncker very judiciously remarks, it is not consistent with common sense, “ to denominate
 “ that a *catarrhal fever*, in which
 “ neither cough, nor heaviness, nor hoarseness,
 “ nor peripneumony, nor any thing of erysipelas,
 “ are manifested.” This remark is very applicable to those who have abused the name of *catarrhal fever*, often comprehending under it a totally different kind of complaint. For that which is commonly called the *malignant catarrhal fever*, or *petechizans*, has none of the symptoms mentioned above, entitling it to the name of *catarrhal*.

The catarrh a symptom peculiar to it.

343. It appeared to Juncker and several others, that this fever was the same as the *continued quotidian of the ancients*, concerning which we have already (329.) treated apart. But the catarrhal fever, as Sauvages likewise supposes, differs from it in the pains of the joints and back, the coryza, inflammation of the fauces, the hoarseness,

In what respect it differs from the continued quotidian of the ancients.

cough, dyspnœa, the erratic and long-continued shiverings, and other peculiar marks (341.), but particularly in point of duration. Nor ought

The difference
between catarrhal fevers
and other similar affections, and
rheumatism.

this fever to be confounded with these rheumatic congestions of the fauces and breast, which not unfrequently supervene on fevers, both continued and intermitting, at their

height and after the turn; or which, even from the beginning, are combined with them, on account of the season and the prevailing epidemic. For in these the catarrhal affection is subsequent and accidental, and not, as in the catarrhal fever, essentially connected with, and inseparable from, them. We are also informed by Hoffman, that there is no small difference between this fever and that which is the concomitant of rheumatism, proceeding from the rheumatism itself. Since in the catarrhal fever, the inner membranes of the nostrils, fauces, larynx, trachea, and bronchia, are affected, and something of a critical discharge takes place from these parts; while in rheumatism, the muscles alone and their sheaths, or the tendons of the ligaments of the bones, are morbidly affected, nor does any thing proceed from them meriting the name of a sensible and critical evacuation.

How it differs
from the quotidian inter-
mittent.

The same author thinks it may be, with little trouble, distinguished from the affections of the nares and fauces occasioned by lues venerea,

scurvy, or simple catarrh. For in them there is generally no fever present. But it is somewhat more difficult to distinguish the catarrhal fever from that species of quotidian intermittent, which, on account of its evening-accessions and longer courses, is named *spurious* (135.), especially if it be derived from catarrhal affections, or be (141.) accompanied by them. But in such a quotidian the accessions are generally aggravated by more manifest shivering, or preceded by it, and they are interrupted by a real cessation from fever, although of short continuance, in which circumstance, according to Ludwig *, the whole distinction consists.

* Instit. Clinic. subsect. 3. § 98.

344. The proximate cause of this fever seems to be the serum and lymph, either
Its causes.
 vitiated in quantity, lentor, or acrimony, or in all these respects, accumulated in the vessels distributed upon the surface of the body, especially the cutaneous ones, sticking in them, and occasioning irritation; or flowing too copiously to the vessels, glands, follicles, and *cryptæ mucosæ* of the membranes investing the nares, palate, fauces, larynx, bronchia, and similar parts, nay the œsophagus, stomach, and intestines; filling, distending, and inflaming them; but, to be as brief as possible, its proximate cause seems to

consist in a slight ferous inflammation of some or all of these parts. The predisposing causes, however, are chiefly the sanguineo-phlegmatic temperament, a soft lax habit, with vitiated fluids, various acrimonies, the suppression of ulcers, the scabby eruption, the *crusta lactea*, *achores*, and of other excretions. The *procatartetic causes* supervening on the *proegumenæ*, by their joint operation occasion the proximate cause; such are sudden exposure of the body, but especially of the head and neck, to the cold air, in a damp spring or autumn; cold drink taken into the body when warm; sudden checking of the perspiration; principally vicissitudes of the seasons; and, lastly, the inhaling of an epidemic acrid, or its being otherwise received into the system *. By these means the lymph is not only rendered thicker and more acrid; the mucous humours coagulated, and the excretory ducts contracted; but likewise the blood and other fluids, in consequence of the external parts being constricted, and opposing greater resistance, are propelled more copiously to the internal parts not yet affected with cold, consequently more relaxed, and affording less opposition, so as to occasion congestions and slight inflammations in these parts.

* That epidemic miasma appears to be present, principally from this circumstance, that frequently, while catarrhal affections prevail epidemically, this common disease attacks even

those who have been for a considerable time confined to bed from other causes, and have used every precaution in shunning cold and the bad effects of exposure to the air. I myself have a hundred times observed this. Nor would I have the reader believe, that I have observed this in these catarrhs only, in which there might have been reason to suspect, that the complaint had been communicated by contagion, which, if it ever happen, is of very rare occurrence, were I not disposed to consider it as very doubtful: but I affirm, that I have discovered it in those catarrhal affections, which there was not the smallest shadow of reason for supposing to have been propagated to the patients by contagion. But when I mention an “epidemic acrid being inhaled, or otherwise received into the body,” I mean what is imparted to the atmosphere by exhalation, or vapours arising from moist or marshy ground, or which certain winds convey to us. For sometimes the complaint is so rapidly diffused, that its propagation cannot depend merely on contact and communication with the infected, were the miasmata not spread in all directions by means of the winds. For I think it highly probable, that epidemic catarrhs in a great measure arise from this cause, but that the milder ones, and such as are less universal, if I may be allowed the expression, are to be derived from changes of the weather and air, which vitiate the fluids of our bodies in various ways.

THE PROGNOSIS.

345. The duration of this fever is uncertain. When its cause is slight, and its degree not great, it is terminated in one, two, three, or four days. It is then referred most generally, to the *ephemeræ* of se-

It is improperly referred to the *ephemeræ*.

veral days; but improperly, because it is by no means a continent fever. In the spring of the present year *, it was so epidemic that scarcely any one escaped it here at Milan, and also at Turin, and in other districts. It began its attack without cold, with universal lassitude, coryza, cough, great heat, and for three successive days repeated its accessions about the evenings, which gradually became less, and, shortly afterwards, a copious sweat breaking out in the remissions, thick urine being passed, and puriform and concocted matter being readily and quickly expectorated, generally on the third, or, at farthest, on the fourth paroxysm taking place, it wholly disappeared, the cough alone remaining for some days. More frequently, however, when it originates from a more powerful cause, and is genuine and pure, such as I have already described it, it is protracted to the seventh, ninth, or fourteenth day. Of itself it is generally supposed to be benign, and, when properly treated, void of danger; for frequently, even on the first days of the complaint, a free sweat being obtained, it is thus resolved, or, a few days after, a critical solution takes place by means of a copious expectoration of viscid matter, or a full discharge of mucus and phlegm from the nostrils, or frequent loose stools, or a great quantity of thick turbid urine, or by means of all these evacuations together.

346. Sometimes, however, when it arises from a more violent cause, and the blood is more infected with the inflammatory diathesis, as in some epidemics frequently happens, it readily passes into angina, peripneumony, or pleurisy, unless bleeding and the antiphlogistic regimen be employed in due time. Such was that *catarrhal fever*, which raged epidemically in the middle of the spring of the year 1658, at London^{*}; or another, which, in the year 1675, scarcely spared any one, and was described by Sydenham[†] under the name of an *epidemic cough*; and also, that which in the year 1709 raged at Rome, during the prevalence of an epidemic, named by Lancisii *rheumatic* ‡. In this last, coryza and runnings, together with a slight cough, proved troublesome from the beginning, nearly in the same way in which the same complaint, as we are informed by Cagnatus §, and Donus ||, had raged in the sixteenth and seventeenth centuries. Next in this fever there supervened pains of the breast, angina, pleurisy, or actual peripneumony, especially in those who, neglecting the first attack of the disease and cough, lived intemperately ¶.

* Willis de Febr. c. xvii. p. 85.

† Observ. Med. Circ. Morb. acut. Hist. et curat. sect. 2. c. v. 150. 152.

‡ De nativ. deque adventit. Romani Cæli qualitatib. cui accedit Hist. Epidemici Rheumatici, quæ per hiemem anni 1709,

vagata est Romæ 1711. § De salubrit. Roman. aëris, p. 22.
 || De reſtit. ſalub. agr. Rom. p. 16.

¶ Here follows a brief view of Lanciſi's deſcription. Firſt came on univerſal laſſitude, next fever with rigor, ſhortly an erratic pain in the upper and lower part of the breaſt, accompanied with conſtant and dry cough. The pulſe was obſerved to be hard, the urine deep-coloured, and ſometimes turbid; quickly followed by ſpitting of blood, and difficulty of breathing. Then the cheeks often grew red, and a yellow colour took place all over the body, ſimilar to what occurs in jaundice. It is ſurpriſing, and deſerving of notice, that priſons and places diſtantly ſituate from the north winds, were not viſited by this diſeaſe. Women were leſs liable to it than men, and the opulent and noble leſs ſo than the poor; but if any of them fell into the complaint, they experienced the diſeaſe in a milder degree, namely, the coryza, hoarſeneſs, external pain of the breaſt, and ſlight attacks of rheumatic fevers. Moſt of them recovered from the complaint either by ſweat or hemorrhage from the noſe, or purging, or a copious diſcharge of urine, or by all theſe evacuations combined together, generally with expectoration of concocted matter. Not unfrequently, however, the pains of the breaſt and fever went off without concocted expectoration. The dead bodies, when diſſected, diſplayed the præcordia red, even to the diaphragm, and black with coagulated blood, which was in a grumous ſtate in the great veſſels of the heart. The north winds, and a long continuance of cold weather, ſeemed to be the cauſe of this diſeaſe.—*Hiſt. Rom. Epid. cap. 2. p. 196.*

347. This diſeaſe alſo not unfrequently terminates in phthiſis pulmonalis, eſpecially when the cough proves tedious, or the fever often recurs, and attacks perſons labouring under any taint of the

It ſometimes
 paſſes into
 phthiſis.

lungs, or in whom there is a malconformation of the chest. Upon the whole, as Juncker observes, “the more it recedes from being of a slight kind, “and commences with excessive cold or heat, the “more reason is there to fear the presence of some “taint of the viscera.” Likewise the more patients are oppressed with a quantity of impure blood or serum, the worse and more tedious does the disease generally prove, as happens in the case of scorbutic patients, or such as are affected with a lurking miliary miasma; since in them unusually pernicious symptoms arise, threatening the patient with no small danger. But it attacks hypochondriacal subjects with greater violence, being attended with more severe symptoms, as anxiety of the præcordia, more difficult respiration, restlessness, and flatulent pains at the lower part of the abdomen. Nor do those females suffer less, who are liable to the hysteric passion and suppression of the menstrual discharge.

THE CURE.

348. Our attention must be entirely directed to restore an equable circulation of the blood and all the fluids; to derive Indications. them to the surface; to resolve congestions; to allay acrimony; to promote the perspiration in-

ternally and externally ; and to procure the timely concoction and excretion of the morbid matter.

When attention to diet alone is sufficient.

When the disease, therefore, is of a slight kind, and its cause can be easily removed or dissipated, the whole business may be left to nature alone and proper regimen. In such a case, more rest and gentle heat of the bed, and copious tepid drink, of a diluent and mild kind, calculated to gently promote all the secretions and excretions, especially the expectoration and sweat, together with light diet, will be found sufficient. But when the fever is somewhat more severe, and is accompanied with more distressing symptoms, we must have recourse to more decided practice. Then bleed-

Of bleeding.

ing requires notice. Most writers either pass it over in silence, avowedly reject it, or consider it as being very rarely necessary. Hoffman,—who affirms that the timely employment of it, accompanied with proper diet, in plethoric persons, has a remarkable effect in preventing the frequent return of catarrhal affections,—advises its being altogether laid aside during the presence of the catarrhal fever ; because of its rendering the catarrh more tedious, as he had learned by experience. But, with deference to so great an authority, and to others holding the same opinion, I would not be apprehensive of any bad consequence from the use of this remedy, even in such a case, being well con-

vinced of its very great utility, both in removing the proximate cause of the complaint,—which seems to consist in a slight degree of inflammation (344.) of the parts affected,—and in readily and efficaciously discussing whatever obstructions may be present ; but also in certainly and safely preventing the affections which usually succeed to such rheumatic complaints, namely tubercles, hæmoptysis and phthisis. For I have again and again experienced the truth of this in Italy ; and in France Sauvages found the same result to take place, which led him to propose commencing the cure of catarrhal fever with bleeding.

349. However, it must not be employed rashly, nor too freely ; but all the indications pointing out its use, which we have already frequently mentioned, must be considered by the practitioner. For if these are wanting, while there is abundance of ferous fluid, while the red part of the blood is too sparing, the vessels and fibres too lax, together with a small, weak, and soft pulse, bleeding will not only be superfluous, but even hurtful, and then merely by diminishing the vis a tergo, the ferous congestions will become more obstinate ; nay, as Hoffman suspects, will be increased. If, however, bleeding seems to be required by any particular symptom, while others render its utility equivocal, both dry and wet cupping-glasses and leeches are most safely substituted in its place.

In the epidemic already mentioned (par. 345.), the full, and strong, and sometimes hard pulse, the redness of the face, and somewhat greater violence of the accessions, required one or two bleedings immediately, in consequence of which they were all successfully treated. And this practice is the more necessary when the epidemic is conjoined with the inflammatory diathesis, and is apt to associate with it angina, pleurisy, or peripneumony (346.). In that one described by Lancisi, bleeding employed before the fourth day was serviceable to those of a robust habit, though it had not been preceded by spitting of blood; which indeed was a sign, not of resolution or concoction, but of crudity. But it proved in no small degree hurtful to those of a weak habit of body, especially after the seventh day, if the sputum had already begun to be concocted, and other useful evacuations at the same time were present. Frequently large blood-letting was not sufficient; but, at other times, though sparing, it overcame the disease: nay, sometimes mere scarification of the side has perfected the cure *. Sydenham also, when such inflammatory symptoms supervened, found bleeding serviceable; but he advised it neither to be carried to such length, nor repeated so frequently, as ought to be done in pleurisy and primary peripneumony. For in these symptomatic pleurisies, or anginas, or peripneumonies,

he remarked, that as often as the fever, on which they supervene, does not of itself require bleeding, one or two bleedings only are sufficient, and that a greater number is hurtful. In the mean time he prescribed the cooling and antiphlogistic regimen, and in particular recommended that the patient should get out of bed for some time every day. For in England at that time an improper custom prevailed, of employing calefacients and excessive heat of the bed.

* Lancisi too did not omit emollient fomentations externally, and remedies of a diluent, relaxing, and resolving kind internally, together with the application of cantharides. He informs us that he experienced the best effects upon using all of these remedies. He likewise confesses that glysters and gentle laxatives were not without their advantage.

350. Purgatives are seldom proper.

But in the case of depraved digestion, or when the *primæ viæ*, as Concerning purging. often happens, abound with viscid mucus, they must be cleansed with gentle purges only, as cassia, manna, tartar, bitter neutral salts, prepared grapes or prunes, oil of almonds or lintseed, and the like, according to circumstances. Nor ought that to be done at first only, but it may be practised with advantage also during the progress of the disease, if an excessive quantity of impure ferrous fluid is present, and it is brought off from the fauces and lungs with difficulty.

Glysters may be very safely admi-

Glysters.

nistered every day, or every second day, both to keep the belly open, which is thought necessary, and to produce revulsion and refrigeration. Sydenham trusted principally to this remedy alone, when he attempted to gradually fecern and draw off the acrid and phlogistic particles from the blood. For the perspirable acrid, and the phlogistic principle retained in the system, is very conveniently transferred to the intestines, and evacuated from thence. In the mean

Diluents.

time, the rest of the cure is performed by diluents taken in large quantities, and in a tepid state. Among these, a principal rank is held by those which at the same time allay acrimony, as decoctions of barley, of althæa-root, and liquorice; infusions of wild poppy-flowers, violets, and verbasum; emulsions of almonds, or of the cold seeds, which are possessed also of an anodyne quality. Likewise daisy and elder flowers are here recommended. The former in particular are supposed to possess a resolving, the latter a sudorific virtue.

Antiphlogistic means.

351. We may allay the rage of the fever, when it is unusually violent, and resolve lentor of the blood, if, as often happens, it be conjoined with the fever, besides bleeding, by simple oxymel; by nitre; by the sal diureticus, and the spirit of the same; rob of elder-berries; pure whey, or a decoction

of succory, taraxacum, and scabiosa ;
 hydromel, and the like. But, pro-
 vided a moderate febrile motion, and a degree of
 torpor, as it were, of the solids, permit their use,
 by the following remedies we may incide the
 sluggish and viscid lymph ; namely, decoctions of
 the root of burdock, white burnet, elicampane,
 vincetoxicum, polygala Virginiana, or that of Eu-
 rope, saffrafras wood, hyssop, veronica, chervil ;
 oxymel of squills, the syrupus de eresymo of Lo-
 belius, or de Peto ; flowers of sulphur ; benzoin ;
 Kermes mineral, and the like ; which also pos-
 sess the property of resolving infarctions of the
 lungs, by promoting copious expectoration.

Inciding means.

352. The cough is sometimes so
 troublesome, that it in particular re-
 quires being alleviated. This, then,
 is effected by spermaceti of the whitest and least
 rancid kind ; oil of sweet almonds, or lintseed,
 perfectly fresh, and expressed without the aid of
 fire ; butter ; cream of tartar ; hydrogala ; emul-
 sions of the rich, farinaceous seeds ; mucilages of
 the seeds of althæa, mallows, psyllium ; and espe-
 cially those things which induce sleep, as poppy-
 heads, the syrup of meconium of Sydenham, the
 storax pills of Sylvius, those made of cynoglossum,
 the nepenthes of Quercetanus, and opium itself.
 But we must proceed to employ them with cau-
 tion, and not unless in a case of urgent necessity,

Means which alle-
 viate the cough.

after emptying the vessels, purging the belly, and diminishing the colluvies of phlegm oppressing the lungs. For promoting the sweat,

Means of causing sweating.

which is of very great service in this fever, if the means already mentioned fail in their effect, the most convenient remedies are decoctions and infusions of bitter herbs, as *carduus benedictus*, *chamædrys*, *Alpine wormwood*, *camomile*, drunk off tepid ; friction of the whole body ; dry cupping-glasses ; *pediluvium* ; which last occasions very useful revulsion from the head and fauces. Revulsion is also ob-

Revellents.

tained by blisters of *cantharides*, which likewise possess an excellent resolving and attenuant quality, applied to the neck or arms, more especially if the temperament and habit of body, suppressed cutaneous eruptions, and obstinate cough, require such a remedy.

353. We must likewise alleviate the other symptoms. If the throat is very painful, it ought to be gently washed with tepid milk, or a decoction of barley, and elder-flowers. Sometimes *aphthæ* supervene, which may be relieved by a pencil dipped in spirits of salt or vitriol, to which there has been added a little honey of roses. If a *diarrhœa* occurs, it must not be checked. When it is too great, however, it may be moderated ; when defective, it may be gently excited by the powder or tinc-

Remedies relieving the symptoms.

ture of rhubarb. The nose ought to be fomented with tepid water, or its vapours should be inhaled, to relax the vessels, resolve the congestion, and occasion a more ready discharge of mucus. Should there be any occasion for employing a stimulus, which, after discussing the phlogosis of the pituitary membrane, may sometimes happen, it will be proper to add honey, sugar, or manna, or the juice of red beets. Some, in order to facilitate the discharge of humour, put into the nostrils taper-pieces of pure manna, previously immersed in oil of almonds.

354. But all those things which produce too great commotion, or are too heating or cooling, or occasion coagulation by their acidity, and check the perspiration, must be carefully avoided. Narcotics themselves must be used with caution, as has already (352) been observed, especially if weakness and heaviness of the head be present, if the patient be advanced in life, and costiveness occur. Likewise substances of an oily and too relaxing kind, as most pectorals, must be administered sparingly and cautiously, lest, by weakening the appetite and digestion, or by relaxing the lungs, they induce cachexy, or phthisis. After the fever has been discussed, or when it is drawing to a close, if the primæ viæ seem oppressed with viscid mucus, or the catarrhal humour continues any long-

Cautions.

er to flow to the fauces and chest ; in that case, a gentle cathartic of manna or rhubarb will be sufficient to cleanse the former, and derive the latter elsewhere. Lastly, if the bronchia and lungs have become relaxed, they may be strengthened by bark or cascarilla, balsamic resins, conserve of red roses, and by means of other such remedies, named tonics and traumatic.

355. But it frequently happens that this fever from any slight cause frequently returns, and renders many people too liable to it. In such cases, the prophylaxis necessarily claims attention. Such, therefore, as are very liable to it, ought to avoid all those causes from which we have already remarked catarrhal affections to arise. During the spring-time and autumn, before being attacked by the complaint, if they be of a plethoric habit, they ought to have blood drawn ; they ought to be sparing in their diet ; to prepare themselves against the vicissitude of winter by warm cloathing, and lay it aside with caution ; to strengthen their constitutions by means of exercise and powerful friction ; under which head

The prophylaxis.

comes the use of the tepid bath, next cold-bathing in fresh or salt water, employed during the summer season. Besides, it is proper for such as are of a humid or lax temperament, in spring and autumn, to employ decoctions of sarsaparilla, the root of the bark, sassafras

wood, mastich, with dried grapes, for the space of thirty or forty days, and to use a dry kind of diet. On the other hand, whey, soup of frogs and vipers, ptisans of barley or oats, are accommodated to those of a spare habit, and whose system abounds with acrimonies. In not a few instances also an issue made in the nape of the neck, or arm, has been serviceable ; by which obstinate catarrhs, and such as were apt to return, are said to have been removed. By these means, then, the return of the complaint is surprisngly prevented.

356. Hitherto we have treated of both the sporadic and epidemic catarrhal fever, of the benign one, and of that combined with an inflammatory diathesis of the blood. The epidemic kind especially may likewise be combined with fordes of the *primæ viæ*, and then resembles the *gastric* fever, of which I shall say more hereafter. It may also be complicated with a latent, miliary, measly, or petechial miasma ; but it remains a matter of doubt, whether in that case it be rather symptomatic than primary. And sometimes it is not free of malignity, especially when it prevails epidemically ; or at least it occasionally becomes malignant ; as Lancisi affirms to have happened towards the end of the rheumatic epidemic lately mentioned. Sauvages makes

Various complications of it.

Whether it be sometimes malignant.

a distinction between the catarrhal fever and the *febrile rheumatic affection* of the breast, or a slight and lymphatic phlogosis of the bronchia accompanied with fever; but, if I mistake not, whatever difference subsists between them, seems entirely to consist in the degree of violence and part affected. The same author has also chosen to distinguish various kinds of catarrhs from this fever, such as the *catarrhus benignus*, (spec. 1.), the *catarrhus ferinus* *, or the *tussis ferina* (spec. 2.), the *catarrhus epidemicus* † (spec. 3.), since they are commonly unaccompanied by fever, or if it be present, it may then be esteemed as symptomatic. But if these diseases from the beginning be conjoined with fever, and are accompanied in their course by it, I do not see why they may not be referred to the *catarrhal fever*. Of this kind seems to have been the epidemic disease, commonly called *coqueluche* ‡, which laid waste the territory of Nismes, and the whole state; or another, not unlike it, which, in the year 1580, prevailed at Arles, Avignon, and the neighbourhood§, as also the “slow and malignant fever, accompanied with an epidemic disease of the throat,” observed by Forest ||, in the month of October 1557, at Alcmaer; or a similar one ¶ which raged epidemically in June and July, 1580, at Delphi; and one attended with an ulcerous sore throat,

spitting, and petechiæ, which is said to have occurred, in the year 1750, at Condom in Gascony **, and others enumerated by Huxham †† and not a few besides; in which cough, with roughness, violent inflammation or ulceration of the throat, continued fever, violent head-ach, watching, lumbago, coryza, frequently stuffing of the chest, or phrenitis, carried off many on the fourth day, others on the seventh, or fourteenth at farthest. For the most part, at the commencement of the disease, bleeding immediately begun, pectorals, gentle purging, or spontaneous diarrhœa, or, lastly, fetid sweat breaking out, or caused by medicine, cured the fever. Whoever wishes for more ample information, must consult the authors already quoted, and others ††.

* Commonly called the *quinte* and *coqueluche*, and by the Italians *tosse canina*, *assinina*, or *convulsiva*.

† In Italy commonly called *grippe* or *folette*, formerly named at Rome the *mal del Castrone*.

‡ Observ. comm. obs. 9. in Riverius.

§ Ibid. obs. 10.

|| Observ. & curat. l. VI. obs. 1.

¶ Ibid. obs. 3. This very catarrhal epidemic was described in the same year (1580.) by Henisch, as I have already shewn, (par. 226. in note), and by an anonymous author in Riverius, (observ. addit. obs. x.), as also not a few others, because it pervaded the whole of Europe, and other distant countries, but particularly by Petrus Salius Diversus, in his book, *De Febre Pestilente*, cap. XI.

** Sauvag. Nosol. cl. 2. ord. 2. gen. VI. sp. 13.

†† Ibid.

‡‡ It may be proper also to consult one of

our own countrymen, Joannes Targionius Tozzetti, (Prim. Raccolt. d'offer. med. p. 174.), who enumerates the epidemic catarrhs observed at Florence from the year 1323 to the year 1752, and Beccaria, in his commentary on "a peculiar epidemic that prevailed in the year 1730, and particularly concerning an epidemic catarrh," which is said with amazing rapidity to have affected almost the whole world. It is to be found in *Act. Acad. N. Curios. Germ. tom. 3. p. 142.* and was lately republished in vol. 3. *Consilior. Medicor. at Bologna*, after the author's death. In it we have not only a very complete history of the disease, but likewise similar epidemics of other periods are there enumerated and compared. There seems to have been a great resemblance between the epidemic catarrh of Beccaria, and that of 1782, which pervaded the whole of Europe under the name of the Russian catarrh; on which some judicious remarks were published by Targionius, in vol. VII. *degli Avvisi sopra la salute umana*. Among those of other countries, also, we have Lovry, who has described an epidemic catarrh that prevailed at Paris in the years 1775 and 1776, (*Mem. de la Societ. Royal. de Med. vol. I. p. 2. to p. 13.*), and, as he himself thinks, not essentially different from that which Sydenham observed at London, 1675, mentioned in the Acts of the Royal Society of Edinburgh, to have raged in the year 1733; and he has taken notice of another, though milder one, which he saw also at Paris in the year 1745. Coquereau likewise has communicated some very instructive observations concerning the epidemic cough of 1779 and 1780, to the Royal Medical Society, (*Mem de la Soc. Roy. de Med. vol. 3. p. 16.*). But this cough seems to be almost the same as the Russian catarrh of 1782; insomuch, that it may be doubted whether the disease proceeded from the northern parts of Europe, or originated elsewhere. Likewise epidemic catarrhal affections, as they prevailed at Dublin in the years 1729, 1732, 1733, 1737, 1743, and 1762, are described by Macbride, (*Introd. Meth. ad Theor. et Pract. Med. t. 2. c. vi. p. 35.*), and an account of the epidemic catarrhs of

the years 1731, 1745, 1750, 1751, 1753, 1767, and 1768, by Perkins of Boston, is to be found in vol. I. Hist. Reg. Soc. Med. p. 206. Which ought perhaps to be studied by such as would wish to decide the dispute lately started, concerning the “contagious nature of the Russian catarrh.”

THE MILK FEVER OF PUERPERAL WOMEN*.

357. Women who are recently brought to bed, sometimes on the second day after parturition, more frequently on the third, occasionally on the fourth, are attacked with a species of fever, to which the name of *milk-fever* has been given, because if it does not proceed from the milk flowing with violence to the breasts,—which is disputed,—at any rate it comes on about the time when the breasts grow turgid with milk. Nosologists usually class it among the ephemeræ or simple synochi, but, in my opinion, very erroneously; as it is a continued remittent, and, when it is protracted beyond twenty-four hours, follows the course of a continued quotidian, being aggravated with new accessions to the end of the disease, which it usually attains within a few days. It is generally characterised by the following symptoms. The night preceding the fever is passed without sleep, or, if a short sleep steal upon the patient, it is interrupted with alarming dreams. In the morning the pulse is some-

History of the
disease.

what quicker than usual. Not unfrequently there comes on headach, and cold, sometimes only slight shivering extending along the course of the spine, and every time the patient turns herself, diffusing itself to the shoulder-blades, nay, almost to the whole surface of the body, and now and then returning. Afterwards, towards evening, increased heat ensues, and a stronger and quicker pulse; while, in the mean time, the breasts begin to grow painful, tense, and turgid, and a slight effusion of serum occurs. The back and shoulders are affected with a tense pain, and the milk is felt to be derived, as it were, from the axillæ to the mammæ; the respiration becomes, in some measure, more severe and laborious; the *lochia*, unless they had already begun to flow more sparingly, are then manifestly diminished, and sometimes become white, or at least much less red; frequently the areola of the breast becomes black, the nipples prominent, and slightly rigid; the glands become universally swollen and painful; at the same time the arms, on account of the distension of the neighbouring parts, are more difficultly moveable, and the breasts are affected with some irregular tumours, evident to the touch, and painful. At night the fever goes on, rendering the sleep disturbed, until, as morning advances, all the symptoms abate, the pulse becomes much more gentle, and some rest with gentle sweat succeeds.

* Febris lactis, vulgo a mulieribus nominata. Riverius, Prax. Med. l. xv. c. 24. Febris lactea improprie dicta of Levret Oeuvr. t. 1. Art des accouchemens, p. 151. Ephemera lactea puerperarum of Sauvages, sp. 5. gen. 1. class 2. The febris lactea of authors.

358. This remission continues indeed some hours; but does not attain a true apyrexia. The fever is again aggravated in the afternoon with slight shivering. The pulse is generally at first small, contracted, and quick; afterwards it gradually rises, becomes quicker, and occasionally intermits. Then frequently the head-ach becomes more acute, the sleep is disturbed, painful weariness of the joints is felt, and, if the lochia are stopped, or flow very sparingly, the face likewise is red and hot, the breath is drawn with difficulty, and the fever is aggravated with a hard and violent pulse. At length, about midnight, all the symptoms abate, and the fever with all its concomitant symptoms returns again next morning to its former remission. If the patients are tranquil, if they employ a copious, bland, diluent, opening and very spare kind of food, frequently within two or three days such accessions and troublesome symptoms cease, a freer secretion of milk taking place, and a great deal of fetid sweat, of a subacid smell, being equally diffused over the whole body. Sometimes the fever is extended to the fourth or fifth day, namely, to the ninth from parturition, the acces-

sions always gradually becoming milder, and at length altogether insensibly disappearing. When it is of shortest duration, like an ephemeræ, it runs its course in twenty or thirty hours, nay, in some women of a remarkably good habit of body, it sometimes proves so slight, that, except spending a single night somewhat restless, they scarcely experience any other uneasiness, especially if they suckle their offspring; as we observe everywhere to happen, and as Van Swieten observed in his own wife, and many other women *.

* In Boerhaav. § 1329.

359. It appears from physiology, that after parturition, the uterus is gradually contracted, in consequence of which the *redundant fluids*, and such as are contained in the uterine vessels, or, according to others, the chyle itself, or the lacteo-ferous liquor which was carried to the uterus, is repelled by means of the veins to the breasts; whence Hoffman has speciously asserted, that the larger vessels and glands being suddenly filled, and the nervous fibres being unnaturally separated, the pain and fever is excited *. But this cause was not such as completely satisfied the scruples of Van Swieten †. Wherefore, as he observed the fever to arise principally at the time when it succeeds to wounds, and could not conceive that the separation of the placenta could be effected without in some measure lacera-

ting the inside of the uterus, he ascribed the origin of this fever to a slight degree of inflammation of the internal cavity of the uterus, besides the flow of milk to the mammæ; thinking that slight inflammation of this kind was necessary to separate and destroy, by means of a mild suppuration, the remains of the chorium still adhering there, as appears principally from the puriform, nay purulent nature of the lochia, manifested for several days by the heat and peculiar fœtor accompanying their discharge. But Sauvages, to whom it seems sufficient to know, that the fever arises after the contraction of the uterus, directs his attention to the investigation of the final cause, for which it is excited by nature, and considers it as an effect of the providence of nature, that, while the blood is thrown into such violent commotion, the mammillary vessels may be dilated, and open a free passage to the chyle found there, to be changed into milk.

* Med. Rat. Syst. t. i. l. i. sect. 2. c. xv. § 1.

† L. c. ‡ L. c.

360. As the authority of each of these authors weighs very much with me, I cannot easily determine to which of their opinions I ought to give the preference. I would venture, however, to assert, that Hoffman's opinion cannot hold universally, from the circumstance, that the fever sometimes comes on,

These opinions
considered.

and continues some time, before the breasts become turgid with fluids, and experience the painful distension, to which the fever may be ascribed. Besides, were its cause merely an excessive conflux of humours to the mammae, occasioning a painful dilatation, it would be probable, that those only who bear children for the first time would be liable to this fever, as having smaller and firmer vessels, and not such as have brought forth frequently, or have already suckled their offspring, since in these, on account of their having formerly had milk, or suckled, the vessels may be said to have been enlarged. Moreover, in some women, during the last months of pregnancy, the breasts become so turgid with milk, that its secretion cannot be derived from the contraction of the uterus * after birth, nor can the fever be supposed to arise from their painful distension. For in these the vessels are already patulous and full of milky fluid; and yet they are not always free from the milk-fever.

* I have seen a pointer, which, when it was seized with the venereal orgasm, was carefully kept from the male, until she was no longer in season. Yet at the same time, when, if she had received the male, she would have brought forth, her teats became so distended with milk as to hang down to the ground. When I expressed my surprise at the circumstance, the surgeon to whom she belonged assured me, that he had seen other instances of the production of milk in other bitches and animals, without previous conception; which, if it be the case,

physiologists must enter upon another mode of explaining the appearance of milk in puerperal women, without having recourse to the contraction of the uterus. And doubtless in pregnant women milk appears, not to mention virgins, and men, in whom sometimes a great quantity of milk is said to have flowed to the breasts. Robinet, who, I believe, removed all chance of mistake, mentions (*Interpr. de la Nat. t. 2. part v. c. 70. et seq.*), that the breasts of a certain virgin were so distended with milk, that it became necessary to draw it off by art.

361. But who can give his assent to the final cause of this fever assigned by Sauvages? since it is established beyond dispute, that milk is sometimes found secreted, as has been shewn, before as well as after birth, without its secretion having been preceded by any fever, and without its preparing the vessels meant for carrying the milk, by an increased motion of the blood, for the production of milk. Next, if the secretion of milk be owing to the dilatation of the vessels occasioned by the fever, why are not the breasts of young women labouring under fever filled with milk? Lastly, who in his senses can suppose, that nature was so improvident, that she could not in any other way than this, which is neither convenient nor void of danger, attempt the secretion of milk in puerperal women? It seems to be a notion totally foreign to the truth, since in the brute beasts milk is obtained without fever, and the other secretions of the living system, even the slow ones, as that of

Sauvages refuted.

femen, are carried on without such an absurd contrivance.

362. With regard to Van Swieten's opinion :

Van Swieten's opinion considered.

While he derives this fever from a very slight inflammation of the inner surface of the uterus, he makes it evident, and perfectly explicable, why puerperal women sometimes are without it, particularly when the separation of the placenta has been so slight as to occasion no violence to the uterus, or when, of its own accord, it has come entirely off, nothing adhering to the cavity of the uterus, not even any part of the decidua. On the contrary, when any force has been employed in separating the placenta, or any of the membrane of the chorium has adhered to the uterus, not only the fever, named *milk-fever*, supervenes, but it is also attended with some pain, tension, or tumour, occupying the uterine region, and, at the same time, about the pudendum, or in making water, a certain degree of heat of a burning kind, though not very great, is felt. But when neither takes place, and no such troublesome symptoms affect the region of the uterus, and, on the other hand, the breasts are painful, tense, and swollen, if however the fever comes on, as not unfrequently happens, can it be ascribed to the slight inflammation of the uterus? Certainly not; since Van Swieten himself does not hold it as the only

uniform cause, to the total exclusion of the other, namely to the quantity of milk distending the breasts. A greater difficulty seems to be, that sometimes, though no faulty state of the uterus, no sense of uneasiness in the breasts, precede or accompany it, nevertheless puerperal women are seized with the milk-fever. What can be said in this case? Can it be said to be derived from an excessive conflux of fluids to the breasts, or from the remains of the chorium adhering to the uterus?

363. I strongly suspect, therefore, that the origin of this fever is not to be referred to any particular cause, but is of a various nature; although it is generally, though improperly, named *milk-fever*, as if it proceeded from the secretion of milk. And, in the first place, it is very probable, that this fever for the most part depends on the mere contraction of the uterus, which takes place sooner or later. For, on the uterus being contracted, and consequently the lochia flowing more sparingly or thinly, which happens sometimes on the second, sometimes on the third, and sometimes on the fourth day after delivery, the circulation is so changed, that on this account alone the motion of the heart and arteries is accelerated, and there arises a fever, of short continuance however, and ceasing on the equable circulation of all the humours being restored.

The cause of this fever not one particularly.

But if any impure fluid, from the uterus and other viscera of the lower part of the belly after delivery being no longer either compressed or distended, passes back into the blood, which by stagnation, during the period of pregnancy, may have been in some measure vitiated; in that case, the fever arising from thence will be protracted longer, and will resume its accessions until every impurity has been expelled by sweat, urine, or the belly, as generally takes place in three, four, or five days. While no fever will be occasioned, if so slight a contraction of the uterus ensues, as to cause no sensible derangement in the circulation, or if no vitiated fluid from the uterus or elsewhere be added to the blood or lymph; in which case, neither will a preternatural diminution of the flow of the lochia take place, nor will the secretion of milk generate any other inconvenience, than a slight distension of the breasts. But that the lochia should be discoloured or diminished, at the approach of the febrile motion, and again, as it goes off, become redder and more copious, is perfectly consistent with common sense, and should create no surprise.

364. Yet I do not deny, that sometimes such a quantity of blood and other fluids flow to the breasts, that they become immoderately swelled, warm, painful, and in some measure inflamed. But in

What may be properly named milk-fever

such a case, the fever that is excited does not precede, as that now described does, but succeeds the swelling of the breasts, and secretion of milk. This may be properly named milk-fever, as proceeding from excessive quantity and congestion of milk, and being symptomatic ; nor does it require any critical sweat or diuresis, but is resolved by mere diminution of the quantity of the fluids, and revulsion, or by drawing off the milk. And likewise the more any part becomes swollen and indurated with milk, the more distressing, obstinate, and lasting does the fever prove. This kind of disease occasioning a symptomatic fever, is likewise common to nurses ; and when it is quickly dissolved, is commonly named at Bologna *mal del pelo* ; but if it is more severe, it is apt to run into abscess of the breasts.

365. But, according to Van Swieten, there seems to be a fever, which differs from these species (363. 364.) arising from a slight inflammation of the inner surface of the cavity of the uterus (359.). For it also, when it happens, since we have allowed that puerperal women are liable to it (362.), gradually succeeds pain, swelling, and heat of the uterus, strangury, and other symptoms of which we have already spoken, beginning sooner or later, and terminating according to the degree and duration of the inflamma-

When it arises from slight inflammation of the uterus.

tion, and according to the different times when the inflammation, of which the fever is symptomatic, commences. In this species also, the lochia are discoloured, and successively fetid, assuming the appearance of pus, and, if the complaint be more severe, they are at first not only diminished, but are almost entirely suppressed. For it is not an invariable occurrence, that the lochia, on the accession of the fever, are diminished, or suppressed, or become discoloured and fetid. But if, from any cause, as the admission

When it arises
from actual in-
flammation of
the uterus.

of cold, fear, any passion of the mind, perfumes, portions of the placenta being retained, concretions of blood, and the like, the lochia stop, are checked, or repelled, another more violent kind of fever will necessarily arise, entirely different from these (362. 363. 364.), in its origin, nature, violence of symptoms, danger, the variety of its effects, and in its termination. For, in that case, the disease is occasioned by actual inflammation of the uterus, or the head, or breast, or other important parts, by metastasis are most violently affected, in consequence of which a great variety of distressing complaints threaten the patient with imminent danger.

PROGNOSIS AND CURE.

366. IN general, the milk-fever, if it begins at the usual time, and is slight, terminates in two or three days ; or if it remains somewhat longer, it is finished on the fourth or fifth day, as has already been said (358.), with a gentle sweat, copious or thick urine, sometimes with looseness, and a copious return of the lochia, which had been in some measure checked. And it is universally allowed to be unattended with danger. But we must carefully investigate its origin and nature, before pronouncing any thing on its issue, or the cure to be employed. If, therefore, it appears to be of the kind described in par. 363. it scarcely requires me-
How to cure the first species.
 dical assistance, provided it be mild and quickly remit, the lochia flow gently, plethora be absent, and no other uncommonly severe symptom aggravate the complaint. For it is then better to keep the patient quiet, to exclude the light, to prevent her from speaking, to keep her head raised, to guard against cold, to dilute the fluids by means of tepid, aperient, inodorous, agreeable drink, and to excite a gentle diaphoresis, to employ a very light diet, consisting of chicken-broth, either alone or with bread boiled

up in it, and given cautiously at proper intervals, adding an emollient clyster of oil of olives, without any stimulants, every day, or every second day, to keep the belly open, or, when looseness is already present, to cleanse the bowels, until the health is restored. There is seldom occasion to employ bleeding. But if the lochia flow too sparingly, or, which is worse, are suppressed, and the vessels are turgid with blood, the face flushed, the head pained, and the arteries in it throb, or there is a difficulty of breathing, the fever is unusually violent, with a full, strong, and hard pulse, or with suppression of it, or if the uterine region, on being compressed, experiences any painful sensation;—we ought immediately to let blood by opening a vein in the foot, that the disease, from being otherwise mild, may not pass into a worse kind; and, if the symptoms do not abate, it may sometimes be cautiously repeated.

367. But if it appears from the symptoms (364.), that the fever is truly a *milk-fever*, or one arising from an excess of fluids or milk collected in the breasts, the method of cure ought to be the same as that employed in inflammation of the breasts. Resolution must therefore be attempted by all means, first by abstinence, rest, weak chicken-broth, to be repeated every four hours, or by thin

The second species, truly to be named milk-fever.

Method of cure.

panada twice a-day, so as not to increase much the generation of the milk, watery drink, gently diuretic, interposing occasionally powder of crabs eyes mixed with nitre, to prove serviceable by their correcting quality, and absorb any acid acrimony. Next, if the lochia flow too sparingly, the fever is prolonged, the pulse is strong, hard, and full, with which the other symptoms indicative of inflammation concur, or the head-ach, or dyspnœa, require relief, we must let blood from the foot, and repeat it according to circumstances; not omitting emollient and gently relaxing injections. And when the breasts are painful, tense, and too warm externally, it is proper to apply to them rags drenched in a decoction of mallows, and to renew them occasionally, always placing above them folds of warm dry linen, that the fomentations may not become too soon cold, and consequently prove hurtful. Thus it often happens, that by relaxing its passages the milk flows abundantly through the nipples, and affords very great relief. If an erysipelatous redness, as it were, is observable upon the surface of the skin, it is not improper to add to the decoction of mallows, some simple vinegar, the smell of which is borne with impunity, that it may prove more resolving and correcting. But, whenever the pain and tension of the breasts subside, it is proper to abstain from resolving remedies; for we must care-

fully guard against a sudden metastasis of the milk to the internal parts, as this may give rise to a variety of bad symptoms.

368. Instead of wet fomentations, others advise the covering of the breasts with dry warm cloths, and on their becoming moist with milk, the immediate renewing of them, that they may not become cold; this, however, they would have practised with caution, to prevent any bad consequences from the admission of the cold air. But we are informed by Lieutaud*, that this heat is superior in its effects to any other remedy whatsoever, as parsley, smallage, peppermint, chervil, powder of beans or rye, honey, lees of wine, fresh butter dissolved in spirits of wine, diachylon plaster, or spermaceti, and such applications. But even that heat, if it be not perfectly mild, is not free from harm. For in the same manner as cold, so has heat, by contracting the fibres of the vessels, sometimes occasioned the milk, in consequence of being forced back, to attack the brain, lungs, and other internal parts, inducing apoplexy, pleurisy, peripneumony, inflammations, and abscesses, dreadful complaints, named from their particular origin. But I do not know a better remedy both for softening the breasts, and to prevent the metastasis of the milk, than suckling. The patient should, therefore, give suck twice a day, or if, on account of the child's tender age,

that cannot be done, the milk must be drawn off by another woman, or a whelp, or a pipe adapted to the breast, until the child, after the fever is diffused, become capable of doing it freely of itself.

* *Precis. de Medecin. L. III. p. 649.*

369. But such as do not suckle their children, as is generally the case at present, when the fever has begun to abate, receive great benefit from the *arcanum duplicatum*, in a dose of from two scruples to two drachms, divided into four portions, and given at stated intervals every day, in a warm infusion of the *capillus veneris*. For, by means of this salt, according to Levret, who first proposed it, and is supported by experience, not only are the lochia gently promoted, which is of the utmost consequence, but the kidneys and bowels are stimulated; whence it happens, that the superabundant milk is very conveniently sent off by these passages *. But this remedy ought to be continued, until no milk appears in the breasts, and it seems entirely drawn off from the body. I must not omit to mention, that some practitioners are in the habit of gently purging the patient on the ninth day, when the *milk-fever* generally terminates, if the bowels require it, with the view of driving off the remains of the milk, from the retention of which they dread very bad consequences. We

The remedy of service to such as do not suckle.

Arcanum duplicatum.

Purging.

must not, however, on all occasions, and without deliberation, have recourse to this practice, especially when the lochia flow in due quantity. For by premature or rash purging, they are easily suppressed, and occasion dangerous metastasis. When, therefore, the belly is bound, the lochia diminished or suppressed, the milk often returns to the breasts, the appetite is weak, and a bad taste in the mouth is present, and the sleep is disturbed with alarming dreams ;—the belly may be safely purged by means of some neutral salt, as that employed in England, at Modena, or the sal polychrest, or by the *arcanum duplicatum*, to the extent of four or six drachms dissolved in a large quantity of warm water.

* L. c. §. 948.

370. So far respecting the cure of the milk-fever. It is proper, however, to shew in what manner it may be prevented or diminished. About twelve hours, therefore, after delivery, when the woman has enjoyed sleep, if she wishes to suckle her infant, she ought then to give it the breast : for the timely sucking of the breast, now and then repeated, causes first the secretion of milk to take place easily, and next it prevents the breasts from swelling too much and becoming inflamed. But such as give out their children to be nursed, or whose breasts are so distended with milk that they cannot be emptied by it, require

How to prevent
the fever.

the assistance of a female, or some other contrivance, as has been observed, for diminishing the quantity of milk. Likewise the quantity of milk may be prevented by spare diet, containing little nourishment; and, by means of watery drink, which easily passes off, the milk is rendered more serous and thinner, so that it can be more readily sucked, or made to flow out.

But it is attended with still greater danger, if the milk, which by stagnation has become acid, or vitiated, suddenly retires from the breasts, leaving them quite flaccid, and the other parts are attacked with severe symptoms, together with violent fever (368.). It is then expedient to draw blood, chiefly from the foot; to keep the belly open; to excite a gentle flow of the lochia and urine, that the milk, which had left its proper channel, may be brought to excretion; nay, if the complaint be still more distressing, to excite the bladder by cantharides, and to open a new passage for the matter.

What is to be done when a metastasis occurs.

371. Lastly, if there appear to be symptoms of slight inflammation of the uterus, such as Van Swieten has spoken of (359. 365.), besides the treatment already (366.) recommended, service may be derived from emollient fomentations, placed on the uterine region, and oily matters may be taken internally, that

Third species.

the substances adhering to the uterus may the more easily be separated and brought away. But if the suppression of the lochia gives reason for suspecting the presence of greater inflammation (365.), they ought to be recalled as quickly as possible. In that case no one would disapprove of bleeding. It is a matter of some

Whence the blood
should be drawn.

dispute, however, from what part the blood should be taken. But most agree, if the lochia are all of a sudden completely suppressed, and the head or breast are in consequence affected, or if, being retained in the uterine vessels, they produce inflammatory swelling, it ought to be drawn copiously from the large veins of the arm, that the stronger revulsion may take place from the affected and oppressed viscera. On the other hand, if they are only diminished, to recall the due flow of them, it ought to be drawn from the foot. For it is supposed, that, by opening a vein in the foot, the blood is drawn more copiously to the uterus; although, in my opinion, revulsion also from the uterus seems to be produced by

V. S. causes revul-
sion from the foot.

opening a vein there. For the veins of the foot must necessarily be connected with the external iliac ones, so that, when these are emptied, a less influx, in a given time, takes place to the internal iliac veins, which supply the uterus; in which revulsion consists.

But if the lochia neither return after repeated bleedings, nor the congestion of blood about the uterus is digested, the greatest advantage is to be derived from the application of leeches to the inner labia of the vulva, and from very mild and emollient fluids, frequently thrown warm through a tube into the uterus. Among these, the best is fresh oil of sweet almonds, expressed without the aid of fire. Almost the same plan must be adopted in the inflammation of the uterus, occasioned by the retention of the placenta, or very difficult birth, or external violence.

372. The proper treatment for those swellings of the breasts, with which nurses are affected, independently of child-birth (364), it is the province of surgery to point out. But the remarks already made on inflammation in general, may be consulted. It only remains to observe, that after the *milk-fever* has been discussed, the patient must return very slowly to the use of fuller diet, and that the body must be well defended from cold, air, and other noxious powers.

The cure of the
milk-fever of
nurses.

THE ACUTE GASTRIC FEVER*.

373. To this place likewise belongs the kind of fevers, which, though variously denominated, according to the supposed diversity of the situation of its cause, and the variety and depravation of that cause, I think with Ballonius †, is best named *gastric*, provided the *acute fever*, not the *slow* one, is understood by that term ‡. But by whatever name it is called, authors seem to have been desirous of pointing out a fever originating in the lower part of the abdomen, and from indigestion, or from vitiated, corrupted, and putrid matters and fluids, injuring the *primæ viæ*, and gradually passing into the § blood, and which may be relieved and removed by stools, both spontaneous and excited by art.

*Synonyms. The *febris a putredine orta* of Alexander Trallianus, l. XII. c. 12. The *febris putrida* of the physicians of Montpellier. Fizes Traët. de Febrib. le Roy second. Mémoire sur les fievr. p. 243. The *febris putrida* of some recent writers. The *febris mesenterica* of Baglivi, Prax. Med. l. 1. De feb. mal. et mesent. §. 3. and 4. *Febris acuta mesenterica* of Burchard, Diff. de febr. acut. mesent. The *febris acuta stomachica*, and *intestinalis* of Heister. Comp. med. Pract. cap. v. *Feb. stercoralis* of Quesnay, Des. Fievr. t. 2. p. 367. *Febris intestinalis et mesenterica a cacochymia atrabilaria* Riedel. De

Feb. Intest. §. xv. Feb. put. aut biliosa of Tissot. Avis au peuple, prem. part. c. xvi. p. 263.

† Epid. l. 2. p. 117. 120.

‡ For those fevers which are commonly named *mesenteric*, so called by Fernelius, are not of this kind ; as they belong to the slow symptomatic ones, of which mention was made when we treated of *hectic* fever.

§ The passages that lead into the blood are not only the lacteal vessels, but likewise the absorbents, which, as being less irritable, more readily receive any fluid, although acrid and irritating.

374. Under the name of indigestion comes whatever swerves from its natural condition, and stagnates in the sto- What is meant by
cacoachylia. mach, intestines, liver, pancreas, and other viscera of the lower part of the abdomen, putrifies, and becomes in any other way injurious : whether the stagnation take place primarily, or be derived thither from the whole habit, or elsewhere. Such are crudities, and every kind of degeneracy of the aliment collected in the stomach ; the excrements detained too long in the intestines, and having acquired a remarkable degree of putrefaction ; a congestion of bile in its ducts, and the gall-bladder becoming putrid, or forced into the duodenum and stomach, and continuing there too long ; the gastric and pancreatic juice, or that of the intestines similarly vitiated ; the recrementitious matter of the blood and other fluids being retained, or driven back, and carried to the intestines ; various kinds of

worms ; bad, noxious, putrid, or poisonous matters, taken into the system, whether in the form of drink, food, or medicine ; miasmata being absorbed or swallowed, and adhering to the stomach or intestines ; in a word, all those things which can be drawn off by purging, and when so drawn off diminish, or altogether remove, the complaint.

375. But because that depraved digestion of the primæ viæ is now generally esteemed either

Why it is better
named gastric
fever.

putrid, or very prone to putrefaction ; the physicians of Montpellier, Tissot, and others*, have named the fever arising from thence *putrid* ; but probably that name is improperly applied. For that febrile cause may prove hurtful in a variety of ways, and may be possessed of various vitiations, without its being of a *putrid* nature ; besides, the name of *putrid* fever has been given to several other fevers†, both by the ancients and moderns, so that this fever seems to be more properly named *gastric*. For those fevers seem truly to deserve the name of putrid, in which the putrefying power dissolves the blood itself, exists in it, and gradually pervades it. Therefore, as we have already shewn, whatever fever, whether continent, remittent, intermittent, or compound, is conjoined with a putrid dissolution of the blood, may be named putrid ; nor does it constitute any particular genus of fever. But in true putrid fevers, the putrefaction is propagated in such a manner, that, al-

though a portion of the corrupted fluid is occasionally separated, and excreted, the fever does not abate, but still continues to rage with violence. The reverse happens in the *gastric* fever, or that arising from depraved digestion of the *primæ viæ* ; for so soon as this colluvies is withdrawn, by having recourse to purging, most of the symptoms disappear, and the fever is in the same proportion diminished. But if, on account of part of the febrile cause having been imparted to the blood, and effervescing with it, the fever does not immediately disappear, yet it abates, according as the colluvies is withdrawn. And thus are we best enabled to distinguish the *gastric fever* from others commonly called truly putrid.

* According to Le Roy (l. c. n. p.) at Montpellier, all fevers are generally referred to two principal genera, namely, *putrid* and *malignant* ones. The *putrid* ones, which, as we have already observed, have their cause in the *primæ viæ*, are classed among the acute fevers, and are attended with severe symptoms, but are not very dangerous. Those again are esteemed *malignant*, upon which dangerous and alarming symptoms supervene.

† The Galenists, as I have said, named all fevers *putrid*, except ephemeræ and hectic fevers ; but especially the *synochi*. At present, *pestilential* fevers, *true petechial* ones, the *jail*, *contagious*, and *hospital* kind, and most malignant ones, are universally named *putrid*, as may be seen in the works of Huxham, Pringle, Storck, Quarin, and a great many more. A passage, in opposition to the opinion of the ancients, to be found in Trallianus (l. 12. c. 2.), comes very well in here. After ad-

ducing many of their notions concerning fevers arising from putrefaction, he makes the following remarks. “Some physicians have supposed that no putrefaction whatever takes place in the veins, but rather in the abdomen. The proof of which they draw both from worms generated there, and from the excrements when passed, which evince both a bad smell, and a disposition to putrefaction. They say that this is indicated by vomiting also, which has frequently so thoroughly removed fevers, that the patient has no longer experienced a bad fit; that they have at other times seen patients freed from the fever by merely a single vomit or injection. It may be clearly shewn, however, not only from these facts, but many others also, that putrid fevers originate in the belly. It is perhaps likewise the cause of other fevers.”

376. The gastric fever generally observes the type of a continued quotidian. We do not deny, however, that it sometimes experiences various changes of its period, like the tritæophyæ, or compound, or erratic fevers. But it is always truly remittent, having the marks of indigestion of the *primæ viæ*; in which its character consists. It is referred by Quesnay to the acritic or excrementitious fevers, as he calls them; because it is neither capable of concoction, nor of actual crisis, as being cured merely by withdrawing the collection of impurities. This fact had been already communicated before Quesnay by Baglivi *, who thought the consideration of critical days useless, since he saw that it by no means corresponded with the laws of concoction and crisis.

It is always a remittent.

* Prax. Med. l. c. § iv.

377. It is preceded by these causes which in-
 jure, derange, or vitiate the diges-
 tion; which check the perspiration; Preceding causes.
 and direct it to the intestines, which render
 the bile more copious or acrid, diminish the
 strength of the fibres, retard the motion of the
 humours at the lower part of the abdomen, sup-
 press the secretions and excretions of the abdo-
 minal viscera, afford crudities and impurities to
 the stomach and intestines, as wet seasons, ex-
 cessive rains, inundations, frequent vicissitudes of
 heat and cold, want of fresh vegetables, wine,
 vinegar, and corn, stale or worm-eaten bread,
 the abuse of unripe fruits, or such as are apt to
 run into putrefaction, or flesh, or milky, or crude
 aliments, an idle life, or excessive care, watch-
 ing, and study, grief, the action of long-conti-
 nued passions, and, above all, a very sultry sum-
 mer, and a succeeding moist rainy spring, and the
 like. To these some add the atmosphere's abound-
 ing with putrid effluvia, and marsh miasmata;
 although from these usually arise, not only gas-
 tric fevers, but also nervous ones, and other ma-
 lignant, epidemic, and contagious ones of what-
 ever kind, nay, even exanthematous diseases.

378. Immediately before being attacked with the disease, the patient for some days is very languid; pains are felt in the head, loins, and joints, or there is a sense of heaviness and weight over the

Symptoms of the approach of the disease.

whole body ; there is sometimes violent head-ach ; a bad taste in the mouth, especially in the morning ; a loathing of food, and the nights are generally passed sleepless and restless, without any other symptom. He next begins to grow

first cold, and then hot, until he
 Symptoms of the
 beginning of the
 disease. is at length affected with a dry
 acrid heat. Then the pulse, which

during the prevalence of the cold, was small and quick, begins to rise, and sometimes becomes violent, though not hard, as happens in each species of synochus, unless, as not unfrequently happens, this fever takes place in a plethoric person, or one with an inflammatory diathesis of the blood. The headach also generally becomes more severe ; vomiting, or a desire to vomit, comes on ; there is distressing thirst ; the urine is rendered more sparing ; and the mouth becomes more bitter.

These symptoms continue nearly
 Progress of the
 complaint. the whole night, but as the morn-
 ing advances, an abatement takes
 place ; the heat grows more moderate ; the pulse, though all along quick and frequent, and at first irregular or obscure, loses somewhat of its violence and strength, while the patient is left in a state of debility and languor *.

* Tiffot. Avis au Peuple, Prem. Part. chapit. xvi.

379. Besides the usual increase of the fever

towards evening, some patients, during the day-time, or at night, are affected with certain other irregular accessions, as it were, or aggravations of the complaint, by which the complaint is rendered more distressing. The teeth, tongue, and fauces, are covered with a viscid and tenacious pellicle, sometimes whitish, sometimes brown and blackish, sometimes yellow and dirty-coloured. In some costiveness occurs; more frequently, however, a diarrhœa; but though there be a frequent desire to go to stool, little is passed, and that thin, and scarcely followed with any relief. But the stools emit a most fetid smell, and a similar one issues from the lungs. The urine is various, both in its nature, condition, and colour, and also in quantity. At first it generally appears thin and natural, whether it be ascribed to the spasmodic affections, or to the blood's not yet being affected by the entrance of bad chyle into it, but still remaining pure. But, as the disease advances, it is passed thick and turbid, and, on cooling, deposits a sediment of various consistence; and is often observed to remain so to the last. In some patients, the skin is dry and rough; in others, moist, soft, and bedewed with vapour, but without any abatement of the symptoms or fever itself. The hypochondres, to which it is very advantageous to pay attention in all acute

The other symptoms.

diseases, are for the most part raised, swelled, tense, and painful. Nay, the epigastrium in some, but more especially in those around whose liver the bile putrifies and stagnates, becomes so tense and swelled, that the patient cannot bear the touch of a person's hand there *.

* Merten's Observ. Med. P. i. c. 2.

380. Every stool is generally preceded by a certain uneasy feeling, sighing, troublesome disorders in the bowels, internal spasms,

What is pointed
out by fear during sleep.

borborygmi, flatus, and the like.

The patients frequently on a sudden start from their sleep in a fright; nay, they are frequently when awake so much under the influence of fear, that the slightest cause makes them tremble. Which Burchard considers as the most unequivocal symptom of the presence of depraved chylication

Nature of the
pulse.

in the *primæ viæ*. It is likewise proven by experience, that the pulse throws no small light on the subject. For when the intestines and stomach abound with fordes, and are thereby irritated, it is usually small, contracted, irregular, and sometimes intermits. Not unfrequently, however, many of these symptoms are wanting, and the physician remains in doubt of the *primæ viæ* being oppressed with fordes. In a doubtful

An observation of
Quesnay.

case of this kind, we are desired by Quesnay to try the bowels with an

injection. For a ready or flow, easy or difficult passage, following the clyster, the colour, smell, and natural or unnatural condition of what is passed, will point out the presence or absence of a depraved state of the bowels. But the clyster ought to be of that kind which can neither change nor confound the colour nor smell of the excrements. The most proper for this purpose is fenna boiled with water, or the sal catharticus amarus, or cream of tartar, or any other salt dissolved in boiling water.

381. Such, then, are the marks (376. to 380.) by which this fever is principally characterised, according to Heister, when it is of the benign and pure kind. But the same very experienced author owns, that it not unfrequently assumes other symptoms, by which the fever itself is not so much indicated, as the badness of its disposition, its malignity and greater danger. For when the complaint is either entrusted entirely to nature, or is rendered worse by improper treatment, or, on account of its bad disposition, eludes the benefit of the remedies employed, as is very often observed to happen in certain epidemics, which are produced by more destructive causes, then the accessions are more violent, more slowly and less fully remit, return more frequently, are doubled, tripled, or become irregular and erratic. Hence

Symptoms not
peculiar to it
denote a worse
kind of disease.

enfue anxiety about the præcordia, very acute pain in the epigastrium, or in one side running along the course of the hypochondres, fimilar to a pleuritic one; loss of the strength; fainting fits; burning heat of the internal parts, and coldness or moderate warmth of the external ones, hiccup, trembling of the hands, starting of the tendons, emotion of mind, tympanites of the abdomen and hypochondres, the frequent examination of which by the touch is absolutely necessary, and spasmodic motions, by which the muscles of the face are thrown into convulsion.

382. Besides these symptoms, either of their own accord, or in consequence of the warm regimen, as it is called, or the abuse of alexipharmacs and sudorifics, or the neglect of purging, and the morbid matter being introduced into the blood;—red, livid, or obscure spots, like flea-bites, break out on the surface of the skin, particularly about the neck, back, and breast, when it is commonly named the *pètechial* or *purple* fever, although it seems to differ widely, as shall be shewn, from the true *pètechial* fever, or *disease consisting of pètechiaë*, in which these spots constitute the primary disease. Sometimes, also, there occurs an exanthematous eruption of red and white spots, resembling millet-seeds, at one time happening alone, occasionally intermingled with the *peticulæ*, with a trouble-

Petechiæ.

some itching, and putting on the appearance of the miliary disease, of which we shall treat hereafter: here, however, they ought to be considered merely as secondary or adventitious, and then it frequently acquires the name of the *miliary fever*. But when symptoms of malignity are present, and it resembles the petechial fever, though unaccompanied with an eruption of petechiæ, it is named by some *malignant* and *petechizans*. It is also called *morbillosa*, or *measly* and *catarrhal*, when it is combined with measles or catarrhal affections. Such was the putrid catarrhal fever of the year 1768, described by Mertens, and treated by him with equal judgement and success *. Sometimes also metastases of the morbid matter to other parts occur. When transferred to the ears, it occasions deafness; to the glands, swellings of the parotids and other tumours, inflammation, and abscess; to the fauces, angina; to the breast, pleurisy and peripneumony; to the brain, watching, delirium, phrenitis, or comatose affections; to the surface of the body, abscess, gangrene, or edematous swellings. Although many of these bad consequences often happen merely by consent of the nerves, vessels, or membranes, as some suppose, seems to be evinced by their sometimes wholly disappearing on a diarrhœa taking place, whether spontaneously or by medicine.

* Observ. Med. de Febr. Putrid. et Pest. p. I. c. 1.

383. Thus it at length happens (381. 382.); that in consequence of the mind being either in a state of delirium, or overwhelmed with profound sleep, the fœces, and with them often lumbrici, are passed, generally without the patient being sensible of it; while he continues in the supine posture, slips low down in bed, rejecting all remedies. Not unfrequently they catch at imaginary appearances, they collect the bed-cloaths, speaking much and muttering. In the mean time, the pulse becomes small, quick, irregular, obscure, intermittent, and the strokes are counted with difficulty. A cold sweat breaks out all over the body; the breast is oppressed; snoring succeeds; and, lastly, death closes the series of fatal symptoms.

384. But, when the disease is pure, legitimate, and not conjoined with malignity, (378. 379. 380.), and is not rendered worse by improper treatment or neglect, it remains for some time at the same stage, which has been already mentioned, without being either increased or diminished. It afterwards becomes milder, all the symptoms are asswaged, the paroxysms return with less violence, and sooner and more manifestly remit, the headach is more tolerable, stools are not passed so frequently, but with more ease, are more concocted and copious, and afford more evident and certain relief to the

Symptoms of the
severest degree
of the disease.

When it is benign
and legitimate.

patient. In like manner, the urine flows more copiously ; the sleep begins to be easier and more tranquil, occasioning no labour, refreshing the strength and spirits ; the tongue acquires its natural colour and moisture ; the taste is improved ; some desire for food returns, and the skin becoming all over softer and moister, the former sound condition of all the functions is restored.

385. The first distinction, therefore, of this fever is, as we have seen, into *benign* and *malignant*. The latter is manifested by loss of strength, symptoms of a more violent kind, exanthema-

It is therefore divided into benign and malignant.

tous eruptions, nervous affections, spasms, delirium. The absence of these symptoms indicates the former. But according to the different kinds of depraved chylication, various differences are constituted. Hence arise the *pituitous*

or *glutinous* species of Sarcon and Selle *, the *bilious* one of Tissot †,

Other distinctions and their signs.

the *verminosa* of Morealis ‡ ; according as the phlegm, and mucus, or bile, or worms, are supposed to give rise to the primary febrile cause. The *pituitous* species is said to be indicated by a foul white tongue, covered with a filthy crust, viscid saliva filling the fauces and mouth ; by thin, limpid, or turbid urine ; an insipid taste of the mouth ; loss of appetite ; by the preceding food having been of crude, farinacious, and glutinous

substances ; by the phlegmatic or melancholic temperament. The *bilious* species, again, is characterised by a bitter taste in the mouth, by a yellow tongue, or at least its not being covered with mucous matter, by vomiting or a bilious diarrhoea, by the choleric temperament, yellow skin, by the urine having somewhat of the appearance of that passed in icterus, or being of the lateritious kind. Lastly, the species called *verminosa* is distinguished by the symptoms of lumbrici, already noticed, but particularly by their being frequently passed. But although the particular characteristic marks of each have been just now given, I do not think that much reliance is to be placed in them, since frequently all these causes concur together ; nor are they so pathognomonic as always to afford a certain criterion of any of the species.

* Pyretol. p. 242.

† Avis au peuple, chapit. XVI. p. 263.

‡ Delle febbri maligne e contag. prodotte da vermi. Modena. an. 1739.

386. It is no uncommon thing for the gastric fever to be combined with an inflammatory diathesis of the blood, nay, Inflammatory
gastric fever. with the particular inflammation of certain parts. Hence it is named by some the *inflammatory gastric fever*, and is generally from the beginning a continent fever, although, on the inflammatory diathesis being removed, it shortly af-

ter assumes the appearance of a remittent one. Sometimes also, not only depraved chylication, but likewise too great Bilious and putrid
gastric fevers. tenuity, or a putrid dissolution of the blood, are combined with this fever. When that happens, some name it *gastric*, or *bilious putrid*, fever. Such seem to have been the “bilious fever of Lofanne,” described by Tissot *, the *maligna verminosa* of Morealis †, the *febris continua putrida cum vermibus* of Van Den Bosch ‡, the *putrid bilious fever* of Mertens, which occurred in 1769 §, the “bilious fever prevailing in camps and marshy situations” of Pringle ||, the “epidemic fever of Siena,” of the year 1766, and 1767, mentioned by Nerucci ¶, the *febris putrida verminosa*, and *maligna*, of the year 1770, of Lepeque de la Cloture ** ; likewise the *febris epidemica* of 1779, noticed by Caleronius, and most of the “epidemic and malignant gastric fevers,” described by authors ††. Such are the principal distinctions of the gastric fever. But whether they are to be esteemed as so many different kinds of gastric fevers, comprehending an almost endless variety of species, as Selle has suggested, we are much disposed to doubt. Nor does it seem to be an idea very consistent with nature, nor adapted to the convenience of practitioners.

* Dissert. de febrib. bilios. seu Historia epidemix biliosæ Lausanensis, an. 1754.

† L. c.

‡ Histor. constitution. epidem. vermin. quæ an. 1760, 1761, 1762, et initio 1763, &c. regnavit. c. 3. sect. 1. § 25.

§ L. c. P. 1. c. 2. p. 50.

|| Diseases of the army, p. iii. c. iv. § 1. 2. 3.

¶ Hist. feb. epid. Sen. an. 1766 and 1767. Sen. 1767.

** Observations sur les epidem. p. 91.

†† It is to be remarked, however, that epidemic fevers, especially malignant ones, seldom observe the nature of simple and sporadic ones; and that they are not regular and uniform, as the sporadic kind generally is. They always have some symptoms by which they are distinguished from those of the same description. For they vary much, not only with regard to temperaments, sex and age, but also with regard to the time of the year, the weather, climate, local situation, and other circumstances. Nay, it is probable, that the epidemic miasma itself frequently varies so much in its nature, the degree of its virulence, and quantity, that great changes in diseases occasionally take place; and hence perhaps it happens, that in the same epidemic the disease at the outset seems one thing, in its progress another, and in its termination a third. Nor does it always exhibit the same appearance in the neighbourhood, but different appearances according to the variety of the preceding causes. A singular instance of such varieties occurs in the malignant epidemic fever of 1772 and 1773, described by Bontæus, (Mem. de la Soc. Roy. de Med. vol. 1. p. 23.). In all cases it was a continued remittent, and observed the quotidian type; but in some patients it put on the appearance of the putrid gastric fever, in others that of the catarrhal, in not a few that of the slow nervous fever, always malignant and anomalous; so that the author was obliged to divide it into several species, namely, into the *putrid malignant fever*, as he calls it, the *bilious*, *mesenteric*, *catarrhal*, and *nervous*; as any one may see in the part already quoted.

THE PROGNOSIS.

387. In general, this fever has no stated period either of the return of health, or of a fatal termination. For some are slight and benign, others very severe, or malignant, according as they happen to be accompanied with fewer or more pernicious symptoms, more or less affecting the muscular or nervous system. For the spasmodic affections, in particular, which are excited in this fever by the very acrid and virulent febrile cause, not unfrequently give rise to fatal peripneumonies, pleurifies, anginas *, heart-burn, colic-pains, or pains about the iliac region, most acute headach, violent coughs, extreme debility, lethargy, and phrenitis, as has already been shewn; and thus arise several very intricate complaints, attended with various degrees of danger. Likewise greater danger is present, when it is combined with other diseases, namely, measles, small-pox, and the miliary eruption, with synochus either of the putrid or opposite kind, especially ardent fevers, with particular inflammations, and other acute diseases.

The prognosis
various.

* Anginas, however, in these fevers, generally arise from an acrid and putrid cause, or miasma directed to the fauces, and are very apt to degenerate into gangrenous and corroding aphthæ. Hence they are then generally named malignant and putrid. Of which more on the article Angina. Pleurifies and

peripneumonies also frequently are owing to a similar cause, and quickly terminate in a fatal gangrene.

388. But when it is of a slight kind, it is for the most part terminated in a few days. On the other hand, if it is more violent, it does not disappear for six weeks, or even a greater length of time. When this happens, it is not only owing to the quantity and badness of the morbid matter, but also to the improper plan of cure which is employed; for its usual course is circumscribed to fourteen days, or, when it proves more obstinate, thirty. But whenever it is attended with peculiarly urgent symptoms, and is improperly treated, it often happens that it cuts off patients on the ninth day, sometimes on the eighteenth or twentieth. Sometimes also, as we have already hinted, it has been known to be protracted, after various vicissitudes of hope and fear, to the fortieth day, when at length a solution occurs. We ought, therefore, to be on our guard, even when the very worst symptoms are present, against pronouncing a fatal prognosis, because not unfrequently, on ascertaining and expelling the material cause, they are suddenly and unexpectedly removed.

389. If the diarrhœa, which generally supervenes, or is a concomitant of the complaint, be suppressed intentionally or by accident, the symptoms are

What is indicated
by the diarrhœa.

aggravated, the gastric and corrupted chyle being transferred to the internal and more important viscera of the system. Which Stahl and his followers affirm, when they speak particularly of the “malignant catarrhal fever of the Germans,” or the epidemic called *petechizans*, which we shall afterwards shew to belong to the gastric fevers. But stools of a thin, watery, or pure kind, are not void of danger; while a favourable inference may be drawn from their What is indicated by crude stools. being somewhat thicker, of the consistence of pottage, feculent and less fetid. Sometimes, likewise, the urine being thick, like that passed in strangury, or purulent, affords no small hope of a favourable termination. The malignant, or epidemic, bilious, putrid, gastric fever, or that combined with other diseases, is Good and bad symptoms. generally more dangerous and difficult of cure. The freer, easier, and more equable the respiration is, and the less the anxiety and restlessness, the greater is the hope of recovery. A small, irregular pulse; a livid, squallid, or pale face; extreme debility; alienation of mind, especially when not preceded by head-ach or excessive watching; and coldness of the extremities, attended with very oily, pale, brown, or black stools; denote the near approach of gangrene, or sphacelus of the intestines, shortly to be succeeded by death. Likewise the inflammations of

the viscera, which are liable to happen in this fever, have a rapid tendency to gangrene. Nor is it to be wondered at, when such putrefaction of the fluids, or tendency to it, is present. The discharging also corrupted, black, shining blood, if it does not proceed from the piles, is generally a fatal symptom. The other symptoms, indicative either of a favourable or unfavourable termination, may be collected, if we mistake not, from what has been said on the history of this fever.

No crisis to be expected.

It only remains to add, that the disease is still crude, so long as the symptoms are increased in violence, or remain obstinate; that, when these have taken a turn, or begin to depart, it is advancing to a crisis; for, as we are informed by Baglivi and Quesnay, no actual crisis occurs in this fever.

390. The nature of the disease requires the immediate expulsion of colluvies from the *primæ viæ*, the timely prevention of inflammation or metastasis, if any fear of these happening is entertained, the removal of the spasmodic affection of the solids, and, lastly, the obviating of putrefaction, or putrid dissolution of the blood, as far as possible. But above all things it is proper to consider, whether or not bleeding should be employed at first; for most are of the opposite opinion. I shall offer a few remarks concerning the things requiring atten-

Indications.

Whether bleeding be proper.

tion, to determine our judgement in this dispute. If the patient be in the prime of life, of the sanguine temperament, of a good habit of body ; if at the same time plethora, a great, full, or hard pulse, violent headach, oppression at the chest injuring the respiration, and other symptoms be present, and causes of a heating and inflammatory tendency have preceded ; if any part is suspected to be affected with inflammation (381. 382.), or the *gastric fever* occurs with an inflammatory diathesis, as in that named *gastrico-inflammatoria* (386.), blood ought to be drawn without delay : and if one bleeding proves insufficient, it may be repeated a second time. Among the symptoms indicating this remedy, should be enumerated swelling, pain, and tension of the belly, together with costiveness. Otherwise, however, bleeding is not only superfluous, but hurtful ; especially when the fever has proceeded to a considerable extent, or is combined with a putrid dissolution of the blood, as happens in the species called *gastrico-putrida*, especially of the *epidemic* or *malignant* kind. In which case, if it be indicated by any symptom, blood is more safely drawn by wet cupping-glasses, or leeches applied to the temples, nostrils, or hemorrhoidal tumours ; which is also most conveniently done during the progress of the complaint.

391. But it is absolutely necessary to free the

primæ viæ of fordes as soon as possible, which may be done either by vomiting or purging. By vomiting, if the stomach abounds with colluvies; which appears principally from the foulness of the tongue, bitterness of the mouth, fetid breath, nausea, vomiting of bile or phlegm, a sense of uneasiness or weight about the precordia, anxiety, sympathetic headach, tinnitus aurium, dimness of sight or vertigo; nor does the violence of the fever, or the suspicion of inflammation of the stomach and intestines, and the spitting of blood, or any other symptom, prevent our having recourse to this remedy. We cannot employ it if enterocoele be present, unless violent prolapsus of the intestines be prevented by the application of a proper bandage. Pregnancy also throws another obstacle in the way, but not of such consequence that very gentle vomiting, should it be required, may not sometimes be employed in women of a robust habit, who do not readily suffer abortion.

Those indicating
purging.

But if vomiting cannot be employed, or the gastric collection is rather situate in the intestines, we must call to aid purging the belly; which is indicated by heaviness of the knees, pain in the loins, swelling of the epigastrium or belly without inflammation, borborygmi, flatulency, gripes, fetid, watery, corroding, and bilious stools.

392. Vomiting may be obtained either by tepid water mixed with oil, and drunk in large quantity, or by oxymel of squills, or ipecacuanha ; or in those of a more robust habit, tartar emetic, dissolved in a large quantity of tepid water, and taken off at different times, until vomiting succeeds. Nor is it sufficient, when there is a great quantity of badly digested matter present, to excite vomiting once only, but it is sometimes necessary to repeat it, according to circumstances. After removing the badly digested matter in the speediest way, Tissot proposes a gentle decoction of tamarinds, or a few drachms of cream of tartar, to be taken every day, or every second day ; by means of which we may both gently purge the belly, allay the heat, and prevent putrefaction and an alkaline degeneracy. Morealis informs us, that he derived very great advantage from a mixture of scordium and treacle water, a whole citron and a little rhubarb, or the syrup of the same, taken occasionally during the course of the disease, to the extent of a spoonful ; and he declares, that without it quicksilver, which he recommends as being the most effectual antidote against worms, and fevers proceeding from that cause, was employed to no purpose ; so necessary did he find purging the belly, which he did by giving that remedy *per epicrasin*.

By what means
vomiting and
purging may be
obtained.

393. But no one perhaps trusted more to purging in this disease than Heister. In all gastric fevers, even in the *malignant exanthematic* ones, and in the kind called *petechizantes* (382. 389.), attacking people at any time of life, as well as boys and puerperal women, both from the good effects which Wagner, (a physician of considerable eminence at Lubec), and he himself experienced from it, he greatly extols a peculiar method of treatment, which is said to be extremely efficacious, not only in curing these fevers, but also in changing them from the malignant to the benign form. He takes from a scruple to half a drachm of ipecacuanha, well triturated with the arcanum duplicatum, and dissolves it in three or four ounces of aqua benedicta. Of this mixture he prescribes one or two spoonfuls every half hour, or every hour, occasionally interposing some correcting and diaphoretic draught, until its emetic effects are produced. If the vertigo, fainting, pain in the throat, and other malignant symptoms, do not remit within twelve hours, and the pulse and respiration (for the latter, when it is anxious, irregular, frequent, difficult, and accompanied with sighing, is considered as the mark almost peculiar to malignant fevers), do not become freer, it is necessary to repeat the same mixture, until the disease takes a turn for the better. Nor must we abstain from employ-

ing a few grains of ipecacuanha, unless after the total disappearance of the malignant symptoms, which sometimes happens within two days; for it is likewise supposed to prove serviceable by its alexipharmac virtue.

394. But if the corrupted matter be contained in the intestines (391.), and purging cannot be employed in the epicratic manner, but its immediate expulsion is necessary, wem ay very advantageously employ manna, cassia, the purging salt used in England, sal polychrest, that of Modena, &c. rhubarb, the syrups florum perfici, lenitive electuary, the pulp of tamarinds, the diatartarum Petri Castelli, in such quantity that rather a part of the colluvies contained in the intestines may be pretty briskly evacuated. But in purging the belly, we must always employ some caution, that too great a discharge may not be excited, by which the patient's strength may be reduced, which is principally to be feared in the species named *gastrico-putrida* (386.), and others of a similar stamp, in which there is a very great tendency to a putrid dissolution of the fluids; or that the intestines may not be inflamed by the frequent and excessive irritation of cathartics, which in the species called *gastrico-inflammatoria* (386.) is not uncommon. Some also advise the rendering of the matter more fluid, before its e-

When brisk purging, and when gentle and cautious, should be used.

vacuation is attempted, by inciding, digesting, and attenuant remedies, by which it is better prepared for being passed. If it is proper upon any occasion, it is certainly so when a tenacious and sluggish mucus adheres to the stomach and intestines, as frequently happens in the *pituitous* or *glutinous* gastric fever (385.), or when the bile, after acquiring the thickness of pitch, fills the ductus choledochus and gall-bladder, as, it is probable, sometimes happens in the *bilious* gastric fever (*ibid.*). But in general no time is to be lost, lest the retention of putrid fordes render the disease more severe and dangerous, and bleeding and purging at length become incapable of removing it; or lest becoming more and more liquid, the matter pass into the blood, to the great danger of the patient.

395. Patients are sometimes so sensible and irritable, that emetics and purges may be feared to aggravate the complaint. In that case, the primæ viæ are best cleansed by olive oil of the finest quality, or lintseed oil, or fresh oil of almonds expressed without the aid of fire, drunk off to the extent of four, five, or six ounces. For it generally proves serviceable in two ways, by evacuating both upwards and downwards; it blunts the acrimony of the fluids, resolves such as are viscid and tenacious, relaxes and diminishes the spasmodic contractions,

When oily substances are useful.

and produces other good effects *. I know very well that it is disapproved of by most practitioners, probably on account of the abusive and indiscriminate employment of it formerly, as being pernicious, because it is very apt to become rancid, abounds with phlogiston, and therefore seems capable of increasing the fomes of the fever. But let them observe what kind of oil, and in what quantity, I propose it. For if it be of the best kind, and perfectly fresh, and be given in such a quantity as very quickly to pass through the stomach and intestines, every hurtful effect, which is dreaded from its rancidity, will be avoided. If, on the other hand, it be employed indiscriminately, verging on rancidity, and be drunk off by spoonfuls or ounces, it is very evident, that by remaining long in the stomach, and being already predisposed to rancidity, by the warmth of the situation, it will very readily grow rancid.

* The reputed efficacy of oil in the cure of these fevers is confirmed by the experience of Bianchi (*Hist. hepat. part. 3. p. 250.*), Valcarengi (*Med. Rational.*), Guidetti (*Pleurit. bilios. an. 1709.*), De Haen (*Rat. med. T. 3. c. 2.*), and lately by the observations of Jo. Baptist Martius (*Istoria delle pleuritid. bilios. di Samminiato 1775, p. 160.*), who affirms that nothing was more efficacious than fresh oil of sweet almonds in removing the vitiated bile in the epidemic bilious pleurisy of the year 1775.

396. But let us grant that it always grows

rancid, as they object, however it is given : It will become so either while it is contained in the stomach and intestines, or after passing into the blood. If the first happens, which we allow may sometimes take place, it certainly acquires strength, by which the mouths of the lacteals being irritated and contracted, it is repelled, and prevented from entering them. But it may be said, that it will find a passage more readily into the inhalent veins, which are either destitute of irritability, or endowed with very little, and, therefore, do not contract on being irritated. I cannot, however, adopt this opinion ; first, when I consider the thickness and tenacity of the oil, which prevent its entering into them ; and, next, when I consider the acrid rancidity which it has contracted. For in consequence of the fibres of both the stomach and intestines being irritated by it, while the oil ought to be absorbed by the veins, the peristaltic motion is so much increased, that not only the excrements, but also along with them the oil itself, is very readily ejected. But if the other supposition is admitted, there is scarcely any room for apprehension ; for I imagine that the oil before being imparted to the blood, is so much changed by being elaborated in the stomach, that it in some measure loses its usual form and disposition, and is converted into chyle, acqui-

The oil defended.

ring a state totally opposite to rancidity and corruption, from whence so many bad consequences are dreaded. If, however, any one still entertains apprehensions of this rancidity*, it may be easily prevented by the addition of some citron-juice, or that of lemons, or oxymel. For thus the phlogiston, the extrication of which imparts the rancidity to the oil, is restrained and checked; for acids readily combine with the phlogiston, and in some degree hold it fast. But if the oil, either on account of the fear of rancidity happening, or for other reasons, does not find admission, and other medicines cannot be given on account of their irritating quality, then glysters are most safely administered, and ought to be frequently repeated, provided they be chosen from among the milder ones.

* But there are some kinds of oils which are very slow of acquiring rancidity. The oil of olives, which is employed for frying meat, is of such a nature, that the heat of the fire itself does not make it contract rancidity, but it remains bland. Of late I observe the *Oleum Ricini* upheld by the English as not at all noxious. Every kind of oil, therefore, does not so readily become rancid as some would have it.

397. While, by these means, we attempt the expulsion of the gastric colluvies, we must not omit those remedies which are opposed to the bilious or alkaline acrimony or putrefaction. Acids, in particular, both

Utility of acids.

of the vegetable and fossil kind, have the most powerful effect in this way, and are attended with the farther advantage of allaying excessive fervour and violence of the fever. For they check the phlogiston, restrain the heat, and diminish the irritability of the heart and arteries. To water, therefore, which should be taken in great abundance, there ought to be added some of the acid juices afforded by vegetables, as vinegar, lemon, citron, or orange-juice, syrups prepared from these, and likewise barberries, raspberries, and the like. When the heat is greater, and there is a stronger propensity to putrefaction and colliquation, or the blood itself seems verging on putrefaction, as happens in the species called *gastrica putrida* (386), fossil acids are substituted more advantageously in the room of the vegetable ones. Tissot prefers the spirit of sulphur *per campanam*, and strongly recommends a mixture consisting of one part of it, and six of syrup of violets, of which he prescribes a spoonful to be added to the drink, and to be repeated every hour. It is proper, however, to remark, that the fossil acids, and particularly the vitriolic and volatile sulphureous acid, prove detrimental to the sensibility of the nerves, and to the irritability of the heart and arteries. If, therefore, the animal and vital powers are too languid, as very often happens from putrefaction of the fluids, or from a

putrid state of the chyle, we must not use these strong acids unless with caution ; or it is proper to combine with them substances which rouse the strength, such as Virginian snake-root, that of contrayerva, Peruvian bark, and the like. It is safer to employ such things as have been sweetened with spirits of wine. Among which a chief rank is held by the elixir vitrioli aromaticum *.

* It is made by mixing one pound of aromatic tincture, with four ounces of sulphuric acid. But the recipe for the *tinctura aromatica* is as follows.

Rec. cinnam. drach. vi. sem. cardam. min. drach. iii. piper. long. zingiber. an. drach. ij. sp. vin. tenuior. lib. ij. Digere sine calore, et cola.

398. A great deal is now said of the antiseptic virtue of fixed air, with which water may be impregnated, after the manner of Dr Priestley, both to be drunk and injected. But almost all are now agreed, that whatever power it possesses is entirely to be ascribed to the vitriolic acid, with which the fixed air is certainly combined.

Fixed air.

Camphor.

Camphor, either taken by the mouth or anus, affords a most excellent antiseptic, and besides allays the spasms, without injury to the irritability of the heart ; nay, it even rouses and recruits that irritability * ; but, if the nervous sensibility be languid, it is not very friendly to it, but ra-

Arnica.

ther depresses it †. The most proper remedy, then, is the mountain-arnica of Linnæus ‡, by which the nervous power requiring stimulus is remarkably roused. Collin || also has lately highly extolled the virtues of arnica, both in the form of infusion and decoction, and also those of the extract, against every kind of putrefaction.

* See Sebastian Severius's *Theses de Camphora ejusque viribus*, published by him on the 6th of June 1776; at Pavia, while I was then Professor there. Likewise Collin's Essay on Camphor, published at Vienna, 1773, or p. 3. of *Observations concerning Acute and Chronic Diseases*.

† Severii Thes. l. c. Th. xvi. xvii. xviii. xxi. xxiii. Bassianus Carminati *De Animalium ex Mephitibus et noxiis Halitibus interitu*, &c. l. 3. c. 3. p. 177.—191. ed. Laud. Pompeia, 1777.

‡ Vid. Collin's *Florum Arnicæ Vires*, &c. Vienna, 1773, or, *the fourth part of the Observations*, &c. and P. v.

|| Ibid.

399. But as the strength is sometimes reduced, whether by the collections of putrid matter, or by the frequency and extent of the evacuations, we must obviate this by means of cordials and restoratives. Port wine, in which has been boiled cinnamon, mace, or nutmeg, or Cyprus, or that from Syracuse, or mallow wine, mixed with water, are serviceable. But when there is occasion for its being austere and somewhat astringent, that the

Analeptics and
cordials.

fibres may be strengthened, and the fluids in some measure contained, it is better to employ Rhenish or the Austrian wine, or that from the Moselle, in which is contained a more remarkable antiseptic power, with a slightly heating or intoxicating effect. Our countrymen may use the acidulous and austere wines of the Briantine and Tyrolese mountains, or the celebrated wines of Æmilia, called *Sangiouese*, or the Tuscan wine, which receives its name from Mount Politio, although somewhat smoked. The wine expressed from the fruit of the pomegranate, properly cleared of dregs, will be serviceable to the poor, and ought always to be kept in apothecary shops. Likewise water-gruel of different sorts, of a thickish consistence, to which is added a little wine or citron-juice, restores the strength remarkably, nourishes the body, and is not apt to become putrid. Nor must I omit mention of that most delicate composition made from cocoa, which is now almost universally employed as a luxury, the restorative and cordial effects of which are conspicuous.

The kind of wine.

Chocolate.

400. And sometimes those medicines, which contain opium in their composition, are not improper, in allaying such derangements as have been induced by emetics, or restraining or mitigating excessive diarrhœa, or

Opium.

alleviating pains of the belly, or preventing watching. For they diminish the nervous sensibility, bring on rest, allay spasms, check immoderate evacuations, while they undoubtedly excite the irritability of the heart, like cordials, when given in proper time, as has been proven by the undoubted experiments of Haller*, and of many others after him, notwithstanding of its being undeservedly denied by others. Among them, in particular, are recommended laudanum, the theriaca Andromachi, the diascordium fracaetorii, the philonium Romanum, and the like. But if opium cannot be employed, gentle sleep is procured by means of the heads of poppies, the anodyne mineral liquor of Hoffman, Homberg's sedative salt, concerning which, however, a few entertain doubts. Likewise, when a putrid dissolution of the blood occasions immoderate diarrhœa, it may be very much checked by vitriolic acid, of which mention has already been made, added to the drink so as to produce an agreeable acidity.

* Carminat. l. c.

401. But, notwithstanding these remedies (390. to 400.) having been employed, Blisters. if the fever is prolonged, without any abatement, and the headach continues, or an affection of the brain is indicated by other symptoms, as coma or delirium, those things which induce blistering and ulceration ought to

be applied to the calves of the legs, and pus drawn from them for a long time ; or blisters and rubefacients, particularly those composed of mustard or ferment, are to be applied to the soles of the feet ; or, when restlessness and pain are conjoined, the feet should be bathed in warm water. But if the complaint do not yield to these either, blood may be drawn from the parts nearest the head or brain ; which is done in various ways, as has already been observed. It may be observed, however, that cantharides, which are generally employed to excite vomiting in the *gastrico-putrid* species, in which a putrid fomes has infected and dissolved the blood, often prove more prejudicial than serviceable. Borelli *, Richa †, Tissot ‡, and a good many others, affirm their having frequently experienced this. On which account they rather advise the employment of rubefacients or sinapisms, which they have found more useful.

* Epist. ad. Malphig. p. 28.

† Constitut. epid. Taurin, 1720. § 32.

‡ Feb. bilios Laufann. p. 44. 45.

402. Nor must we neglect the lumbrici, if their presence is suspected, which happens in the *gastrica verminosa* (385).

Worms.

These lumbrici, or worms, are best killed by means of mineral acids, especially those extracted by fire, which have been already recommended

with a different view; but they are most certainly expelled by cathartics, which are proposed at the commencement of the cure. But in addition to these, we must employ tansey-flowers, the seeds of absinthium santonicum, wild valerian root, sea-moss, myrrh, aloes, burnt hartshorn, petroleum, camphor, and the like; for the accounts that are given of quicksilver by no means deserve credit, as many now agree, and as I myself first shewed, when a young man, in an express essay*. And, perhaps, we ought to place as little reliance in the power of the fern-root, so much boasted of by the ancients. But with regard to quicksilver, if a person wishes to employ it, or any of its compositions, let him guard against the use particularly of strong acids, lest, if they be employed together, that remedy be converted into a corroding poison.

* De Anthelmenthica argenti vivi facultate. Faventia, 1753.

403. But nothing is more common in this fever than for the abdomen to swell (379. 381.) and become tense, especially about the region of the epigastrium, and hypochondres. When this happens at the beginning of the fever, or as it advances, and any part is affected with pain, or resists pressure, and experiences a sense of pain, in that case,

Swelling of the
abdomen.

the intestines retain either air or fordes somewhere, with which they are charged, or there is reason to dread that some one of the viscera is affected with inflammation. This

must be obviated by fomentations, cataplasms, or liniments, possessed

When it is a
symptom of
inflammation.

of an emollient and gently discussing quality, and by injections of the same kind. But if more manifest symptoms of inflammation betray themselves, and the greatness, hardness, or vibration of the pulse, or internal heat, throbbing, and other symptoms concur, it is proper to let blood from the arm ; or, if enough has been already drawn, and the strength forbids our employing bleeding from the arm, blood may be drawn from the hemorrhoidal veins by means of leeches, which is safer and more advantageous in persons of a hypochondriacal, melancholic, or cachectic habit. But if, towards the end of the disease, the belly be-

When it proceeds from
atony.

comes tense, and sounds like a drum, and is not painful on being pressed, shewing that the intestines, in a state of relaxation and atony, are distended with air, not emollient, but strengthening and repressing applications should be made externally ; while it is proper to give internally substances for checking the putrefaction, from which the air is evolved, which diminish the elasticity of the air, and strengthen the fibres of the

intestines. Such are, externally, fomentations of aromatic plants boiled in wine, plaisters of the crumbs of bread, laurel-berries, melilot : internally, spirit of sweet nitre ; tincture of myrrh, amber, and castor ; extract of bark, camomile-flowers, arnica, and ageratum ; and whatever substances possess an aromatic power.

404. Having at length expelled the gastric colluvies, and the fever beginning to abate, or approaching to the intermittent form, we must withhold such substances as produce laxity of the belly ; and if the patient seems to have been sufficiently purged, the remainder of the fever must be removed by the Peruvian bark. But, if the hurtful matter has not been thoroughly removed, some rhubarb or cathartic salt may be added to the bark, that the bowels at the same time may be rendered lax, while we prepare to check any remains of the fever. For it is a very usual occurrence for the gastric fever to be changed to an intermittent, or to approach very nearly to it, and to require this plan of treatment. But it may be known that this remedy will be admissible, if a gentle sweat over the whole body precedes the remissions or intermissions of the fever, while they are followed by red, sparing, thick or lateritious urine ; or if, at the commencement of

When the bark
should be u-
fed.

the accessions, it is thin, or watery, or any coldness of the extremities occurs.

405. When the fever has reached its height, the diet should be of the weakest kind. Some at that time propose The kind of food. total abstinence. But all persons la-

bouring under the disease cannot support such a degree of hunger, as many excretions take place daily, accompanied with no small exhaustion of the strength. Animal food and soups of all kinds, as being generally prone to putrefaction, are to be avoided. But weakish chicken or veal broth, or that of mutton or frogs, in which acetous matters, acid cherries, prunes, and the like subacid fruits have been boiled, may be allowed. Likewise whey prepared with canary-wine, or citron-juice, or cream of tartar. Also decoctions of bread of a somewhat thick consistence, may be given, observing proper caution in using them sparingly and seldom during the violence of the fever, but more liberally and frequently after a remission has taken place. Very good nourishment may also be derived from prunes, cherries, apples, and pears, boiled in water or wine, and sweetened with a little sugar, which taken occasionally wonderfully recruit the strength without being followed by any bad consequence, provided their employment is not prevented by the belly's being too lax. Eggs, though perfectly fresh, are alto-

gether forbidden by modern writers, as being extremely liable to putrify; but, if I mistake not, they are too much found fault with. For when they are perfectly fresh and soft, I never saw any bad consequence ensue from using them with caution and not too frequently *.

* Raw eggs, indeed, are very liable to corrupt; but boiled ones are not: for they are so much changed by boiling as to cohere more firmly, and become less prone to putrefaction. In consequence of the action of the fire, they probably exhale the somewhat on which their putrid dissolution depends. Fouquet, (*sur la Petite Verole*, T. i. p. 154.), however, agrees with us in supposing the noxious qualities ascribed to eggs to have been exaggerated. For what worse, he observes, can be said of eggs already in a state of putrefaction? Galen recommends soft-boiled eggs by way of diet to patients under fever. Mercatus, Heurnius, Pisso, and several others, approve of them in malignant fevers; and Boucher entertains the same opinion, as, in the first stage of malignant fevers, he allows veal and chicken-broth, and eggs. Lastly, the same author (*ibid.*) subjoins, that the yolks of eggs, as being of a saponaceous and emulsive nature, are very good, and prove even more certainly demulcent than emulsions of almonds.

406. During the whole course of the disease, cold water ought to be employed by way of drink. It is rendered more grateful by the addition of vinegar, lemon or citron juice, as has been already observed, sweetened with a little sugar. In its place, also, may best be substituted ptisans made of grass-root, sorrel-leaves, and barley, or simply fountain-water. For among these, the desire and

strength of the patient ought to be consulted. Nor must we neglect paying proper attention to renewing the air and cleanliness, where so much corrupted feces are passed. The air of the chamber, therefore, ought to be temperate, rather inclining to cold, and occasionally impregnated with the vapours of vinegar. But it is of the utmost consequence to renew it frequently, lest, being charged with human and putrid effluvia, it acquire a poisonous acrimony, as it is known to do, and prove remarkably hurtful to patients. Likewise the patient's shirt, linen, bed-cloaths, and bed, ought to be occasionally changed, that every putrid and corrupted miasma may be removed from the system. Nor ought the patient's excrements to be allowed to remain any length of time in his apartment, but should be quickly removed, that the air may not be infected with the foulness proceeding from them. For it is surprising how much pure air refreshes patients labouring under acute and putrid diseases, and checks the fever.

THE FEBRIS HUNGARICA *.

407. To the *malignant gastric* fevers, (381. 382.) and *gastrico-putrid* ones (386.), especially those of the epidemic kind, both in its nature and type, must be referred the Febris Hungarica,

first observed in the year 1566, or rather accurately described then for the first time. As the *fudor Anglicus* receives its name from the country where it was first observed, in like manner this fever, in consequence of prevailing in Hungary and camps, is called the *Hungary and Camp fever*. But it also occurs in other situations. I remember to have seen it rage epidemically in a very temperate, and otherwise healthy district, namely *Æmilia*, and particularly in *Cæsena*, in the year 1767, attended with nearly the same symptoms, which are said to mark its appearance in Hungary. It is frequently conjoined with dysentery; in which case, among some writers, it has received the name of *Febris Maligna Dysenterica*, or simply *Malignant Dysentery*.

* *Lues Pannoniæ, seu Febris Ungarica Theriodes*, vulgo *Cerebri Vermis* of Schenck, *Observ. Medicin.* l. vi. observ. 1. *Morbus Ungaricus*, et *Lues Ungarica ac Pannonica*, or the *Morbus Militaris* or *Castrensis* of Sennert, *de Febr.* l. iv. c. xiv. The *Febris Hungarica* or *Castrensis* of Juncker, *Consp. Med.* T. i. tab. 74. The *Amphimerina Hungarica* of Sauvages, *Nosol. Meth.* cl. 2. gen. iv. sp. 9. The *Febris Hungarica Castrensis* of Junck. tab. 74. and of several authors mentioned in Cullen's *Genera Morb.* gen. v. cl. 1. ord. 1. The *Phrenitis Pannonica*, called also *Morbus Hungaricus* of Carthenfer, *De Morb. Endem.* p. 29. Likewise of Peck, *De Phrenit. Pannon. Idiopath.* Hala, 1739.

408. It is a fever of an *acute, malignant, and epidemic* kind, generally hostile to
 Its description. soldiers stationed in camps, and, on

account of its being easily transferred into healthy bodies by poisonous miasmata, it is also *contagious*, for the most part observing the type of a continued quotidian, and usually appearing and continuing to rage in the months of June, July, and August. It commences about evening, attacking chiefly those of a sanguine and plethoric habit, rather with chilliness or cold, than rigor, succeeded shortly after by excessive heat, and is aggravated at night, abating somewhat in the morning. The patients immediately complain of excessive headach, heat, and almost insufferable thirst, great loss of strength, tension, and a peculiar sensation of heat at the pit of the stomach, rendering the part extremely painful to the touch. The patient's tongue is always dry, purple-coloured, sometimes swelled or cracked. The throat, as in angina, is frequently inflamed, painful, and swelled. About the third or fourth, less frequently the seventh day, there comes on delirium, universal redness of the face, shining of the eyes, and turgescence of the veins in the head. In addition to these symptoms, it puts on the appearance, and shews itself to be, of an *ardent* nature. Not unfrequently there supervene hæmorrhages from the nose, hæmoptysis, constant watchings, nausea, vomiting, sometimes dysentery, petechiæ, swellings of the parotids, lethargy, palsy, and hemiplegia. The belly is sometimes loose, some-

times bound. The pulse is stronger and greater at first than it usually is in malignant diseases. Very frequently the internal parts are inflamed; and this inflammation, when excited by very acrid lymph, or by a poisonous and putrid miasma, is apt to degenerate into gangrene and sphacelus. In a great many, nay in almost all cases, the hearing becomes dull. Looseness frequently is a good symptom. The disease terminates on the fourteenth day, or at farthest the twentieth.

409. These vary greatly according to the temperament, age, sex, climate, predisposing causes, and other preceding circumstances, in the same manner as in most diseases, particularly epidemic ones, and those combined with other complaints. But the symptoms almost uniformly distinguishing this fever from others, are intense and constant headach, dry, swelled, parched tongue, resembling a cinder, excruciating pain at the pit of the stomach, flushed face, and a somewhat stronger and fuller pulse, than is observable in other malignant and pernicious complaints. It has many symptoms in common with the *petechial* disease, or with the *true petechial fever*, of which we shall treat hereafter. But it differs from it in the violence of the pulse, and in the greater severity of the complaint, and sometimes in its not being attended with *pe-*

The symptoms
almost pecu-
liar to it.

Whether it dif-
fers from the
petechial dis-
ease.

techieæ. Besides, in the petechial disease we can scarcely find that painful tension, particularly severe to the touch, which, as I have already observed, was felt in the epigastrium of persons labouring under this fever, unless it be combined with a bilious and gastric colluvies.

410. Impure and moist air, night-cold succeeding a warm day, stagnant or corrupted waters, the effluvia and

Causæ.

drinking of these, bad living of any kind, unwholesome diet, the heat of summer, excessive labour, long-continued watching, weariness, fear, rage, and other affections of the mind, either of long continuance, or repressed, and putrid miasmata, comprehend the preceding causes. And if attention be paid to these, and, at the same time, to the symptoms accompanying the fever, and the evacuations by the belly, or vomiting, by which it is often resolved, it will appear not improbable that this fever belongs to the more malignant and complicated gastric ones; as Selle*, Pringle †, Tissot ‡, and others, do not hesitate to declare. And in fact it seems that it ought to be derived partly from vitiated chyle, chiefly of the bilious kind, and partly from a putrid diathesis of the blood. The last taint originates from the former, on account of the gastric and bilious colluvies being imparted to the blood, and affecting its crasis. Sometimes, however, either the same

causes inducing the vitiated condition of the chyle, likewise communicate the taint to the blood, or the contagious and putrid miasma immediately infects and dissolves the bile and blood, and irritates and deranges the nervous system.

* Rudim. Pyretol. Meth. p. 230.

† Diseases of the Army, p. 3. cap. 4. § iv.

‡ De Febr. Bilios. art. gen. et caus. p. 11. & 12.

PROGNOSIS.

411. All the observations which have hitherto been advanced concerning the prognostic marks of acute and malignant fevers, both in general and particular, are likewise applicable to this fever. It is generally a very dangerous disease, and the more malignant and obstinate the symptoms are, the greater the debility is, the greater is the danger. But certain

The bad symptoms. symptoms require peculiar consideration, as giving us reason to fear a fatal, or affording hopes of a salutary termination. Violent and long-continued headach, scarcely yielding to any remedies, accompanied with delirium or watching, or urgent delirium by itself, indicate the probability of phrenitis supervening. Likewise, pain and heat about the epigastrium and pit of the stomach, if it continues long without any

abatement, denotes the approach of inflammation of the stomach, liver, or diaphragm. Nor is less apprehension occasioned by frequent and obstinate vomiting of matter of various appearances, than by putrid watery stools, exhausting the strength, of a black colour, and cadaverous smell, or having the appearance of dysentery. An open belly, improving the strength, and mitigating the symptoms, removing the bilious humours, of itself is a good prognostic; but a bound belly is not so safe. Angina, and in particular aphthæ about the throat, are esteemed more dangerous even than swellings of the parotids. Petechiæ are generally the consequence of a putrid and dangerous dissolution of the blood, and are rarely critical. In like manner, excessive hæmorrhages from the nose are referable to the same very dangerous cause. When moderate, however, but easy and sufficiently copious, and happening on the critical days, they frequently afford relief to the headach, and bring the complaint to a better crisis. But those which take place by drops, and not sufficiently copiously, generally denote a fatal termination.

Lastly, deafness, if it come on during the progress, or at the height of the complaint, frequently is the forerunner of a favourable event.

Deafness, when
not to be fear-
ed.

C U R E.

212. Violent headach, ardent heat, a strong great pulse, excessive thirst, and internal heat, as they give reason for suspecting inflammation, so do they seem to indicate bleeding. It has also been shewn by experience, that nothing is found to be more efficacious or convenient, both for mitigating those symptoms, and for preventing phrenitis and other sad effects of the complaint, than large and speedy blood-letting. Therefore, at the very beginning of the complaint, that is, on the first or second day from the attack, blood ought to be drawn, but very copiously, according as the age, temperament, habit of body, and strength of the patient, admit: I say, at the very beginning, before the putrefaction advances far, destroys the crasis of the blood, and exhausts the vital powers. For nothing is more hostile to the nervous sensibility, and irritability of the muscles, than a putrid or corrupted humour or miasma. But it must be drawn copiously, that we may quickly oppose any inflammation present, and that it may be adequate to prevent an attack of phrenitis or angina *. If, however, the pulse be small and languid, and if the putrid and malignant contagion has excited fever, that remedy

is either considered as hurtful, or at least must be employed with caution. Yet, if it be necessary, we may draw blood still more safely by cupping-glasses applied to the calves of the legs, or to the back, or leeches applied to the temples or anus.

* Not a few of the moderns, in these and similar fevers, remark two stages, one *inflammatory*, as it is called, which precedes; the other *putrid*, which succeeds to it, and is, as it were, derived from the former. And they hold it to be an indisputable axiom, That the inflammatory stage generally terminates in the putrid one, because they observe the gastric fevers, or gastrico-putrid ones, or others of a similar stamp, at the beginning put on an inflammatory appearance; and, after a few days, the marks of putrefaction become more manifest. In which respect, I shall not at present pretend to determine how far they swerve from the truth. I suppose, however, that they may have been of the gastric or putrid kind from the beginning, but frequently combined with an inflammatory diathesis; and that, on its being removed, they are not converted into putrid ones, but become more manifestly what they already were, and continue as such. For true and pure inflammatory fevers, have scarcely ever been observed to pass from the inflammatory to the putrid state, when properly treated.

413. After which the system must be gently evacuated, upwards and downwards, (391. to 396.); and it is also necessary to employ nitre and subacids to qualify the bile, and, last of all, bland remedies to excite perspiration. But these last are extremely advanta-

Purging.

geous, even at the beginning of the complaint, if it has arisen without any vitiation of the chyle, in consequence of being propagated by contagion.

Alexipharms. Among these the chief are, such as are esteemed to be of an alexi-

pharmac and antiseptic nature, as camphor, theriac, spiritus mendereri, volatile salt of hartshorn, impregnated with citron-juice, and other such remedies, recommended elsewhere (397. 398. et seq.). But when delirium is threatened, and no

abatement of the headach takes place, according to Ettmuller and

Whence blood to
be taken.

Salius, bleeding from the frontal

and sublingual veins proves serviceable. Perhaps, also, the temporal artery may be opened with advantage; from which it is very probable, that blood is drawn without weakening the vital powers.

The very great advantage of arteriotomy in such diseases was formerly experienced by Zaverius Manetti, a physician of the most approved genius, learning, and practice in the epidemic putrid peripneumonies, which attacked in particular the common people in the year 1781 at Florence*. It is likewise proper to apply to the back-part of the head, previously deeply scarified, a cupping-glass, by means of which, as anatomy teaches us, revulsion from the brain itself is successfully performed. Blisters, also, behind the ears, or, if the patient labours under coma, applied to

the whole hairy scalp previously shaved, afford the greatest relief, as we are assured by practitioners of the greatest experience. With respect to the other particulars of the treatment, that of the gastric fevers already delivered (390.) may be consulted †.

* *Consulto con annotaz. e aggiunte, pag. 40. annot. 8.*

† Does the *yellow fever of America* deserve a place here? If its symptoms be compared with those of the *febris Hungarica*, a striking resemblance between them will be found. Their causes, also, do not differ much. Some criterion, however, seems to be afforded by the yellow fever being esteemed endemic in the East Indies, by its being particularly hostile to strangers, by its very rapid tendency to death, by its appearing more putrid and destructive, and by its being accompanied with the yellow colour, as a peculiar symptom, from whence its name is derived. Sauvages referred it to the continent fevers, and named it *typhus icterodes*. By others, however, it is considered as a remittent, and in the *London Practice of Medicine*, it has, in fact, been referred to this class, and perhaps not improperly, as it has been sometimes known to pass into an intermittent. But since its nature is not sufficiently well known, authors not yet being decided to what genus of fevers it ought to be ascribed, and I myself have never seen it, I hold it better in a manner to pass it over, than to offer any observations upon it rashly. I shall, however, here subjoin its *synonyms*, from which the reader will be able to learn the passages and authors from whence he may obtain a more ample and satisfactory description of the complaint. The *yellow fever of America*, of Lining. *Diar. Med. Vanderhm.* T viii. May 1758. p. 408. The *malignant yellow fever of the West Indies*, of Makittrick. *Dissert. Edin.* 1766, and vol. 1. of *Sylog. select. opusc.* of Baldinger, p. 87. The *malignant bilious fever (yellow)*

of America, of Jo. Moultrie. *Dissert. Edinb.* 1749, & l. c. of Baldinger, p. 163. The fever of the West Indies, called by the Spanish *vomito preto*, by the French the *Disease of Siam*, or *Fièvre de Matelot*. *Lond. Pract. of Med. sect. iii. chap. iii.* It seems more proper to refer to the malignant and putrid gastric fevers, the *amphimerina paludosa* of Sauvages, (sp. 18.), and the *amphimerina biliosa* of the same, (sp. 20.); although, on account of their easily passing into intermitting fevers, they might also, perhaps, be transferred to the fevers named *complicatae* and *compositae*.

THE FEBRIS CATARRHALIS MALIGNA OF THE GERMANS *.

414. IN the same manner as the *febris Hungarica*, so the *febris catarrhalis maligna*, or *petechizans* of the Germans, seems more properly to come under the head of those gastric fevers which preserve the type of a continued quotidian, occasionally aggravated every other day, than that of the catarrhal fevers (340.) from which it has improperly received its name. I do not deny, however, that true catarrhal fevers may sometimes be attended with malignity, which I have already (356.) assumed as a matter of fact; but I contend, from comparing the descriptions of Stahl, Hoffman, Juncker, Eller, and others, that the present fever, although denominated by them *malignant catarrhal fever*, differs very widely from the true catarrhal fever. For, if I am not

much deceived, it is a kind of continued remitting fever, generally epidemic, and of a bad stamp, very similar to the *febris Hungarica* just now described, and which, after Heister, I would without hesitation class among the malignant *gastric*, or *gastrico-putrid* fevers. For, on investigating the symptoms, effects, and causes of each, I find so great an affinity betwixt them, that the fever, of which we now treat, seems to depend entirely upon a vitiated state of the chylification, and a putrid taint of the blood. Besides, we are assured by respectable authors, that it is generally resolved by a gentle and continued looseness, which is a symptom almost peculiar to the gastric fevers.

* Synonyms. The *febris petechizans* of Stahl, *Opusc. chymic. phys. med. mens. jun.* p. 660. The *febris epidemica petechizans* of the same, l. c. p. 608. The *quotidiana continua phlegmatica præcipue a phlegmate falso veterum* of the same, l. c. p. 621. The *febris epidemica exanthematica catarrhalis*, or *petechizans* of Hoffman, *Med. Rat. Syst.* T. 4. sect. i. c. x. The *febris catarrhalis maligna petechizans* of Juncker, l. c. tab. 72. The *febris catarrhalis maligna* of Ludwig, *Instit. Med. Clin.* P. 1. c. 1. subsect. 2. § 120. The *febris catarrhalis maligna cum, vel sine, exanthematibus apparens* of Eller, *Observ. de cog. et cur morb.* sect. vi. p. 89. Ed. Ven. The *febris catarrhalis maligna* of Neifeld, *Rat. Med.* Part 1. subsect. vi. p. 101. The *febris petechialis spuria* of Bianchini, or the *catarrhalis maligna, aut quotidiana continua serosa aliis* of the same, *Letter. Med. Pratic. intorno all' indole delle febbri maligne*, Let. iv. p. 129.

415. But according to the diversity and vio-

lence of the preceding causes, according to the
 Various opinions. variety of air, seasons, climate, and
 constitution, it assumes various and
 complicated symptoms; whence Ludwig with
 good reason concluded, that the same fever at one
 time might be denominated *bilious*, at another
stomachic, sometimes *putrid*, or even *petechial* fe-
 ver. It belongs, however, to nothing less than
 to the catarrhal fevers. For, although, after the
 manner of quotidian catarrhal fevers, it is gene-
 rally aggravated towards evening, sometimes,
 like the double continued tertian, alternate acces-
 sions more violent in degree take place. And,
 according to Brendelius, who is supported by Sau-
 vages *, it is not always accompanied with ca-
 tarrhal affections, so as to receive its name from
 that circumstance, but only sometimes, and par-
 ticularly when it is succeeded by the autumnal or
 winter season, after having prevailed some time.
 Whence I imagine it has happened, that phy-
 sicians of considerable eminence, from the circum-
 stance of the catarrhal affections being superadded,
 though not always present, have been misled; rea-
 dily concluding, as if these constituted the nature of
 the fever, first that it was catarrhal, next *malignant*
 and epidemic, from the bad symptoms of malig-
 nant fevers which they discovered in it. For, be-
 sides the sudden loss of strength, and, in general, a
 small weak pulse, *petechiæ* not unfrequently break

out in it ; and it is not unattended with the more violent symptoms common to exanthematic complaints. But since, in general, *petechiæ*, although in some measure pointed out by their symptoms, do not appear in it, justifying its being named *petechial*, having recourse to a new and barbarous term, they have denominated it *petechizans*.

* L. c. cl. 2. ord. 2. gen. vi. sp. 13.

416. Eller, a physician of very great eminence, and a most careful observer of diseases, has come nearer to Ludwig's (415.) opinion. For he supposes it to be a fever of a malignant and epidemic kind ; and he ascribes to it all the symptoms belonging to other malignant fevers. Nay, he confesses that he has observed in it all kinds of exanthematous eruptions, such as the miliary eruption, both of the red and white kind, pellucid vesicles, as well as *peticulæ*. He therefore does not consider it as subject to one kind of exanthematous eruption only, entitling it to the name of *petechizans* ; but, on the contrary, that it is a kind of fever, comprehending almost all the other species of malignant fevers. Be this as it may, it is not my design to investigate their opinions in this place ; in this, however, we agree, that the fever in question differs widely from the catarrhal one, a fact which was well known to Bianchini, lately professor of the practice at Padua *. It will not appear rash, therefore, if I expunge it from the

species of catarrhal fevers, and believe, if it belongs to any genus of fevers in particular, that it comes under the head of the *malignant gastric fevers*, or *gastrico-putrid*, as well as the *epidemic* and *contagious* ones, as we have already remarked.

* L. c.

417. The symptoms and causes are the same which we have already remarked in the malignant fevers, especially the gastric ones, but chiefly akin to those which more frequently occur in the *febris Hungarica*. Those which are esteemed, as it were, peculiar to it, are anginous affections, aphthæ in the throat, pain of the joints and back, long watching, delirium, tremors of the nerves, dejection of mind and body, vertigo, difficulty of breathing, fainting, nausea, vomiting, looseness, and the like. Sauvages lays so much stress on the anginous affections in this fever, that he has without hesitation set down the epidemic, malignant, ulcerous, and putrid anginas, described by Forest, Riverius, and others, as synonyms of this fever. But according as a gastric colluvies, or malignant, epidemic, or contagious miasma, in some measure corrupting the blood, prevails in this fever, the plan of cure ought to be twofold. In the former case, the

most suitable is what we have already shewn ought to be employed with respect to the gastric fevers; in the latter, Cure. after moderate and cautious bleeding, and gentle vomiting, antiseptics and gentle diaphoretics complete the cure. But in each kind, the simplest and mildest method of cure is necessary, and preferable to more decided practice. For we learn by experience, that in such fevers, physicians have often effected more by delay than activity.

SOME OTHER AMPHIMERINÆ OF SAUVAGES.

418. It remains for me to add to the continued quotidians already described, many other species, which I observe referred by Sauvages to this genus of fevers. But of twenty species, which have been established by him, not a few differ from the continued quotidians of the remittent class, and seem to belong either to intermitting fevers, or to the compound ones, or, even though they did belong to the *amphimerinæ*, or rather to the *cathemerinæ*, as they are called by the ancients (*a*), and particularly Pliny, they may easily be brought under the head of the species which I have enumerated, as distinctions, or varieties of them.

Sauvages's species
are examined.

For the *amphimerina epiala* (b), the *amphimerina syncopalis* (c), the *amphimerina cardiaca* (d), the *amphimerina humorosa* (e), the *amphimerina phricodes* (f), the *amphimerina singultuosa* (g), and, lastly, the *amphimerina spasmodica*, and *amphimerina phrenitica* (h), have been improperly referred to the class of remittents, since, in their nature, they are intermittents, or arise from them, most of them belonging to the *perniciosa comitata*, or *subcontinua* of Torti. Thus the *amphimerina hemitritæus* (i), as also the *amphimerina pseudo-hemitritæus* (l), are more properly classed with the compound or complicated fevers, or the *tritæophyæ duplices*. With respect to the *amphimerina paludosa* (m), the *amphimerina biliosa* (n); these undoubtedly partake of the nature of the *putrid* and *malignant gastric fever*, of which mention has been already made at considerable length. I am inclined likewise to refer to the gastric fever the *amphimerina peripneumonica* (o), but only when combined with the inflammatory diathesis. For the peripneumony, observed in it, was a symptom of the gastric fever, observing the type of the double continued quotidian. Enough, then, of the continued quotidians, or *amphimerinæ*; it remains for us to explain the continued tertian.

(a) See Galen, comment. 3. *in prim. epidem.* Hippocratis, where, he observes, that quotidian fevers, which do not inter-

mit, are called καθημερινοί; and those which have an apyrexia, αμνημερινοί; contrary to the acceptation of the word, according to Sauvages. These two words, however, may be employed in the same sense at pleasure. (b) Sp. 2. which seems to be of the genus of *perniciosa* described by Torti. (c) Sp. 3. is the *tertiana duplex perniciosa comitata* of the same. (d) Sp. 4. (e) Sp. 5. (f) Sp. 6. is the *algida* of Torti; which, however, differs widely from that of Marcellus Donatus, with which it is confounded by Sauvages in this place; for that which Sauvages adduces from the *Hist. mirab.* l. 5. c. 4. of Marcellus Donatus, was symptomatic, having arisen from mortal wounds in the head, and altogether distinct from the *algida* of Torti. (g) Sp. 12. here the *continued and malignant fever* of Riverius (*Centur. 1. observ. 47. and centur. 3. observ. 78.*) is set down as a synonym. Concerning the first, it does not appear from the description, whether it was a continued quotidian, or an intermitting fever. But if it really was a continued fever, it appears to me certainly to have been a gastric one, combined with an inflammatory diathesis. The other, again, was not a continued *amphimerina*, but the intermitting *choleric tertian* of Torti, *i. e.* a *perniciosa comitata*. (h) Sp. 15. is described in the *diarium* of Vandermond, an. 1757, p. 97. and was treated with the Peruvian bark. It must, therefore, be referred to the intermitting fevers named *pernicious*. (i) Sp. 17. here he quotes Mercatus on *tertian* fever. But Mercatus ascribes to the pernicious tertian the phrenitis (*prima tertianæ perniciosa differentia D.*). But the tertian is then an intermitting fever, whether it be simple or double. (l) Sp. 7. belongs to the *compositæ*, or *complicatæ*. (m) Sp. 8. this also comes under the same description, or belongs to the double *tritæophyæ*, because Sauvages confounds it with the *double continued tertian* of Werlhof: it is therefore not an *amphimerina*. (n) Sp. 18. (o) Sp. 20. (p) Sp. 14.

THE CONTINUED TERTIAN *, AND CAUSUS †.

419. As the continued quotidian suffers an exacerbation daily, so does the *continued tertian* every other day, being attended with a similar remission, but never attaining an intermission. In this fever the accessions are preceded neither by shivering, nor rigor, nor remarkable cold, except the first or second one, which generally commence with cold or shivering. Nor does sweat break out during the remissions, unless very seldom ; and, if it ever does, it is very slight, irregularly diffused, difficult, and for the most part affords no relief, the disease being still imperfectly formed ; or, as more frequently happens, it breaks forth at an unseasonable time, and during the progress of the paroxysms, without alleviating the complaint. By which peculiarities it is distinguished from the intermitting tertian.

* Synonyms. The *tritæophya* of Sauvages, *Nosol. cl. 2. ord. 2. gen. vii.* The *tertiana interposita remissione tantum*, or the *tertiana* of Cullen, *gen. morb. cl. 1. ord. 1. gen. i. ii.* The *tritæus* of Linnæus, *gen. morb. ii. critici iii. exacerbant gen. morb. xxi.* The *tritæophyes febris* of Gorter, *Prax. med. syst. l. 3. tit. 4. 200.* commonly the *continued tertian*.

† The *ardens periodica* of Riverius, *De feb. putr. cap. 1.* The *causos* of Hippocrates, *Epid. iii. sect. 3. (a).* The *causus*, or *febris ardens* of Galen, *Comment. iii. in Epid. Hip. l. 3.*

(a) I have already (par. 55. note *) mentioned an opinion of Le Roy, who contends, that Hippocrates (*in Hist. i. sect. iii. l. 3. epid.*) has employed the name *causos*, not to denote any peculiar fever; but to express any very acute and fatal one. But had he attended to the observations which Hippocrates makes in the description of the third epidemic constitution of the same book, he would probably have changed his opinion. For in that part of his work the following passage occurs: "The nature of the ardent fevers was this: The patients from the beginning were comatose, anxious, affected with shivering, the fever was acute, they were not very thirsty, nor delirious. There was little discharge from the nose, exacerbations occurred on most of the even days. During which loss of memory, resolution of the strength, and loss of voice were experienced. The extremities of their hands and feet were always somewhat cold, especially during the exacerbations: and they again slowly, but imperfectly, recovered their heat, sense, and speech." And in *epid. i. stat. iii.* he seems to speak still more clearly: "When, therefore, the ardent fevers began, it was implied that danger was to be apprehended. The patients from the beginning were affected with acute fever, but little rigor; they were wakeful, bore their sufferings with difficulty; there was thirst, little sweat on the forehead and shoulders, and none over the rest of the body; they were extremely delirious, and affected with fear and despondency; the distant parts of the body, as the extremities of the feet and hands, were coldish; paroxysms occurred on the even days; the uneasiness of the patients was generally greatest on the fourth day, and the cold sweats of longest continuance; nor did the extremities afterwards recover their heat, but remained livid and coldish; they had no thirst; their urine was black, thin, and sparing; nor was any blood discharged from the nose; nor did a return of health take place in any of those, in whom such symptoms occurred, with a slight discharge of blood from the nose, but they were carried off in a sweat, on the sixth day.

420. It sometimes happens that such accessions return not every other day, but daily; one day, however, more severe, another less so, in such a manner, that both in the hour of attack and intensity of their course, they are every other day similar to each other, if not quite the same. But the more severe ones do not always occur on the unequal days, as is commonly supposed; for the same thing happens on the even days, and is esteemed to be an unfavourable symptom by Hippocrates. Hence, from such courses being daily run, it is named *double continued tertian*. Each of these kinds, or both the simple and double, are sometimes named by the particular term *tritæophyæ**, though this name seems more applicable to those continued quotidians, which are aggravated at each accession with cold or shivering†, in the same manner as intermittents, especially such as are called *subintrantes*, (71. 102. 128.), between which and the *tritæophyæ* there certainly is a considerable affinity, in respect to their period, and the shivering, rigor, or cold, with which they are attended; although they differ widely in their origin, essence, and the danger accompanying them.

Double continued
tertian.

Nature of the tri-
tæophyæ.

* Sauvages Nosol. cl. 2. ord. 2. gen. vii.

† Raym. Jo. Fortis *de febr. p.* 91. who distinguished the *tritæophyæ* from continued tertians, because the accessions in

the latter are repeated with shivering, and in the former without it. But such shiverings seem to have a double origin; either from the inflammatory diathesis, with which they are occasionally combined, or from a putrid depravation of the chyle in the *primæ viæ*, as more frequently happens.

421. Howsoever they are named, they proceed after the manner of continued remittents, and are so in fact from the beginning; nor do they derive their origin from intermittents, that have degenerated into the continued form, like the *subintrantes* or *subcontinuæ*. At the beginning of the fits the pulse becomes somewhat lower and quicker; the urine is thin, and for the most part watery; at the increase of the fever it is thick, attended with a fuller, frequent, strong pulse, which, as the fit is drawing to a close, (which generally happens in the morning), beats with greater calmness, and becomes lower, but without being attended with any, or at least very little, sweat; nor does the urine deposite the lateritious sediment, a symptom generally present in intermitting fevers. But the remissions hold as it were an intermediate rank between those of the *subintrantes* and *subcontinuæ*, and the very slight or less manifest ones of *continent* fevers. They are generally attended with acrid heat, a bitter taste, occa-

In what they differ from the *subintrantes*.

The symptoms.

Why they are likewise named bilious.

sionally at the beginning vomiting of bile, at the increase and height of the fit succeeded by bilious diarrhœa, thirst, watching, and the other symptoms of acute fevers. They are generally supposed to arise from bilious acrimony of the blood, or from vitiation of the bile itself, infecting the whole of the fluids. Hence they are named by most physicians *tritæophyæ*, or *bilious* continued tertians. But it is consistent with reason, to suppose the prevalence particularly of an *alkalescent* and warm acrimony in them, by which the solids are violently irritated, and the fluids very speedily lose the gluten by which they cohere. To that cause, probably, ought to be referred, excess of the igneous principle, or some such other dissolving principle.

422. But when burning heat, and unquenchable thirst, occur in this fever *, it is then in

When it is called caufus, or ardent.

particular called *caufus*, or *febris ardens periodica*. In this species, to the other symptoms are generally superadded, a dry, rough, black tongue; red, fiery urine; headach; watchfulness; delirium; anxiety; difficult, frequent, and weak respiration; and warm breath: and it is almost an invariable symptom, that the fever is aggravated only every other day, like the simple continued tertian. And it is particularly hostile to young people of the choleric temperament, and of a ro-

bust habit ; after excessive exercise, especially in the summer ; when travelling, exposed to the sun's rays ; or such as are addicted to immoderate labour, or any kind of heating mode of living. We are told by Sauvages, that the *causus*, both at first, during its increase and at its height, is distinguished from the *bilious tertian*, (421.), by the belly being bound, or at least not loose ; but that, after taking the turn, the belly becomes relaxed, and that critically ; as this species of *causus* is capable of concoction, and, on the concoction being finished, is terminated by critical evacuations. But in the species of *causus* described by Hippocrates†, “in most instances the bowels were disordered with crude, copious, and thin stools.” It is, therefore, by no means an uniform mark, that the belly in the *causus* is bound, or, at least, there are authors who agree in opinion with Raym. Jo. Fortis ‡, that such an ardent fever is extremely apt to pass into the *colliquative* kind, as he himself calls it, and that this is known by crude, liquid, pure, frothy, fetid, fatty, and bilious stools supervening on the fourth day, without proving of any service, or critical ; but, about the seventh day, by unusually copious urine, on the surface of which the melted fat swims ; and, lastly, by sudden and universal emaciation.

* Galen himself (loc. cit.) thinks these two symptoms pe-

culiar to the *causus*, namely, “infatiable thirst, and burning heat.”

† L. iii. epid. stat. iii.

‡ De febr. p. 318.

423. But the *causus* is not derived merely from one cause. It occasionally happens, that the *causus*

arises from bile stagnating in the gall-bladder, and in a state of corruption, or being effused into the duo-

The *causus*, or gastric ardent fever.

denum, or from other vitiations of the condition of the *primæ viæ*. In that case, the putrid bile, or colluvies in the stomach, not only infects and corrupts the blood itself, but excites and relaxes the belly. Hence arises a very ardent fever, attended with very fetid looseness, of various appearance. The stools are then black, green, yellow, reddish, partly liquid, partly solid, and tenacious. When that happens,

The *ardens stercoralis*.

Quesnay calls it *ardens excrementitia*, or *stercoralis*, and *acritic*, as not requiring concoction; by us it is denominated *gastric* or *bilious*.

424. Lastly, there is another species of *causus*, which is attended with a diarrhœa, not occasioned

by bile alone, or fordes in the stomach, nor by a putrid dissolution of the blood, but by the inflammation of some viscus combined with these, either irritating the intestines, or causing a flow of hu-

The *causus* from inflammation in the abdomen.

mours to them. This species was first observed by Vales * and Balloni †, physicians of great authority and very extensive practice, by whom we are told, that in such a case the intestines, or mesentery, or liver, or stomach, are affected with inflammation, as erysipelas, and that this appears from the hardness, swelling, or tension, pain, and remarkable heat of the seat of the morbid viscus. But if, in this complaint, there is a burning heat internally, while the external parts, at least the extremities, are affected with coldness, the *causus* obtains the name of *lipyria*.

Lipyria.

* III. epid. 1.

† Confil. 31. l. 2.

425. The remarks to be found in the works of authors, concerning the prognosis and cure of these fevers, may seem to be not only different, but, unless they are properly adapted to each species, even contradictory. The following observations of Hippocrates ought to be considered: “Whatever fevers, not intermitting ones, are aggravated on the third day, are more dangerous *. Fevers approaching nearest to tertians, attended with perpetual tossing, are malignant †. The bilious fever, when jaundice supervenes with rigor before the seventh day, is resolved by it; but when it comes on unseasonably, and is not attended with rigor, it is fatal ‡.”

The prognosis of continued tertian.

* Aph. 43. sect. iv. & lxii. sect. viii. coac. 116.

† Coac. 33.

‡ Hipp. de vict. acut. n. 54.

426. With respect to the *causæ*, or *ardent fevers*, if they be *genuine* and *pure*, they are not of great duration; for their violent symptoms cannot be long borne. They are generally terminated on the seventh day; sometimes on the ninth, eleventh, or fourteenth. Such as exceed that period are named *spurious*. But, according to Sennert, they are all dangerous, and the more so the more they recede from the natural condition; and *vice versa*.

The *causus*, or legitimate & spurious ardent fev.

The prognostic marks in *causus*.

Galen* is of opinion, that if an old man is attacked with ardent fever, it proves fatal; and I believe that it really is the case. In the ardent fever, if the patient does not complain of thirst, while the tongue is parched, it is a dangerous symptom; for it is a proof that he is either in a state of delirium, or is become insensible. Likewise, black urine, as well as that which is thin and crude, denotes an unfavourable event. Vomiting and looseness supervening after concoction on the critical day, may be ranked among the salutary marks; but if they occur before concoction, a fatal event is indicated†. In ardent fevers, as Baglivi observes, copying after Hippocrates‡, if jaundice and hiccup happen on the fifth day,

it is a fatal symptom. Rigors also occasionally supervene in this fever ; in consequence of which Hippocrates has written : “ When rigor
“ supervenes in ardent fever, a solution takes
“ place ||. But that rigor ought to come on at
“ the height of the complaint, after the symptoms
“ of concoction, attended with a full, soft, and
“ strong pulse, and ought to cease on the body’s
“ regaining its heat, in order to be reckoned salutary : For it is generally succeeded by a critical
“ sweat. On the other hand, if it comes on
“ while the disease is yet crude, and the pulse
“ languid, and the body does not quickly grow
“ warm again, nor the strength of the pulse revive, the patient will certainly sink under it.
“ Danger is likewise indicated by slight tremors,
“ and green vomiting, which is pronounced to
“ be fatal in the *coacæ prænotiones* §.” But Sen-
nert has summed up the symptoms of a favourable event in the following words : “ It is a
“ good sign if the patient bears the complaint with
“ ease ; if the symptoms are not violent ; if his
“ respiration is free ; if he feels no inward pain ;
“ if he enjoys sleep, and is refreshed by it ; if his
“ body is uniformly warm and soft ; if his tongue
“ is not dry ; if his urine is natural. But if,
“ after the appearance of symptoms of concoction, together with returning strength, a copious
“ hæmorrhage from the nose takes place on the

“critical day, without doubt the patient will recover **.” Ardent fevers of this kind are often resolved by sweats, and abscesses of the external parts; but more frequently, as has been already noticed, by vomiting, looseness, or hæmorrhage. But the other species of caufus, which we have called gastric, if its fomes is quickly removed, is attended with much less danger, although, on account of the risk of inflammation being present, it is not void of danger. But the ardent fever, which arises from internal inflammation, because, as generally being of an erysipelatous kind, it readily passes into gangrene, ought to occasion great apprehension, especially when it has attained the height of a *lipyria*.

* In Hipp. aph. 14. sect. 1. † Swieten in Boerh. § 741.
 ‡ Prax. med. l. 1. cap. de ictero flav. ex Hip. de Jud. n. 8.
 || Aph. 58. sect. iv. § N. 62. ** De febr. l. 2. c. 12. p. 61.

C U R E.

427. In the continued tertian, (419. to 420.), if it is violent, as it generally is, and acute, accompanied with great heat, at the very commencement, or, at farthest, at its increase, blood must be drawn from the arm, in a quantity proportioned to the patient's strength. But when the disease is farther advanced, it is not

When bleeding & purging are proper in the continued tertian.

let with safety *, because in that case there is frequently a tendency in the blood to colliquation ; nay, it is frequently already in that state, on account of having acquired a degree of *alkalescence*. At the same time, if symptoms of abundant vitiated chyle betray themselves, there is then occasion to employ purging, which some propose after bleeding, and with justice, if excessive plethora be present. But the medicines, by which purging is effected, ought to be subacid and refrigerant. When, however, such matter does not abound, it is evident that pur- Concoction to be expected. ging is not to be employed till after the concoction has taken place. The concoction is promoted by tempering, diluent, and subacid remedies. But when nature does not, of her own accord, attempt the evacuation of the concocted matter, Galen and many others advise the exciting of it, by giving abundance of cold water to drink.

* Swieten in Boerh. § 743.

428. Cold water, or even that which is ice-cold, is much better adapted to the first species of *causis*, (422.), if the The drinking of cold water in the first causis. patient be young, the season and climate warm, if he be of the choleric temperament, and his strength sufficient, while no phleg-

monic inflammation, or remarkable obstruction of the viscera, opposes its use. The most eligible time for giving the cold water, is said to be at the height of the complaint, although, on urgent occasions, it may likewise be drunk as the fever is increasing. As much water is usually prescribed to be drunk, as the patient can take gradually. The safer plan appears to be, to give six or eight ounces every half-hour; thus supporting the patient on water alone, without any other aliment, for several days, till the disease undergoes a crisis. In the mean time, sweat ought to be avoided as much as possible, taking off the bed-cloaths with caution, if it be necessary, and admitting the cool air; although I do not see why sweating ought always to be checked when the disease is going off, and favourable symptoms of concoction appear. But patients are to be gradually accustomed to this drink; for some can hardly bear it, on account of the spasmodic constrictions that take place internally; and the coldness of the water must be gradually and cautiously increased. But in the warmer climates, as in the kingdom of Naples, Sicily, Spain, and elsewhere, they employ this remedy in a more decisive manner, employing it generally in most diseases, without paying much attention to

The mode of giving it.

the precepts of the ancients in this respect. This is named the *diæta aquea*.

429. But in the other species of *caufus*, (423.), since, on account of the putrid cause, there is reason to apprehend the pre-
Cure of the second caufus.
 fence of inflammation, and of considerable danger, in the parts in which the vitiated bile, or redundant excrements, are lodged; it is necessary first to let blood, next to purge the belly, or excite vomiting; and to do this alternately, that the disease may not be rendered more obstinate or dangerous, by the too long retention of the corrupted matter. Whey,
Purging.
 with cream of tartar, in such quantity as seems best calculated for the patient, taken to considerable extent, or decoction of tamarinds, is to be preferred. It proves laxative and tempering, resists the *alkalescence*, cleanses and evacuates the bowels. Fomentations applied to the belly, assist the effect of the laxatives. Clysters of the same whey, with the addition of lenitive electuary, or the sal cathart. amar. frequently thrown in, draw off the material cause, without injury. Tartar emetic, diluted with water, and taken at separate intervals, after
Vomiting.
 bleeding, on the day of the intermission, produces an evacuation, by the mouth and anus, of the fomes of the disease, and is safer and even better than cathartics, when re-

markable putrefaction, or an epidemy, or malignant miasma, or very violent symptoms, require the speedy evacuation of the bile, or gastric colluvies.

430. But when inflammation, affecting any of the abdominal viscera, occasions the ardent fever, as in the third species, (424.), all those things are improper which cause violent purging. In their place, after using repeated bleeding, semicubium, and emollient fomentations, and very bland laxatives, may be employed. Likewise whey, and fresh lintseed-oil, or the best oil of olives, or of the *Ricinus Americanus*, or any other which is not apt to become rancid, are recommended with the view of very speedily and gently drawing off any putrid colluvies, lest, if retained, it should render the inflammation, already malignant from its bad condition, prone to gangrene. With regard to the remaining parts of the cure, the commentary on inflammation may occasionally be consulted. Lastly, in each of these species of continued tertian, (419. to 424.), the kind of diet ought to be such as is employed in other acute diseases, namely, weak, watery, and refrigerant; but the air of the chamber in which the patients lie, ought to be somewhat cold and moist. For

Cool air requisite. Van Swieten very justly remarks, that bleeding, clysters, and the other

expedients of art, are scarcely adequate to allay the heat and excessive violence of the fever, without the additional assistance of cool air *.

* In Boerh. § 610.

431. But before finishing my account of the continued tertians and the tritæophysæ, it is proper to observe, that, They vary according to the season, and patient's age. whether they be simple or double, they vary much, according to the patient's age and temperament, and the season of the year. Hence some seem to be rather sanguineous, others pituitous, or bilious; and the symptoms vary not a little according to the difference of the nature of the fever. Those which attack in the autumn are The autumnal ones. usually more severe, obstinate, and dangerous. They are sometimes from the beginning combined with a gastric and putrid depravation of the chyle, or they put on an inflammatory appearance, and give reason to apprehend the presence of cephalitis or phrenitis. More frequently, however, on account of the perspiration being checked by cold or moist air, they are combined with coryza, catarrh, cough, or rheumatic pains, and resemble a catarrhal or rheumatic fever. Nay, it is not an unfrequent occurrence for the miliary eruption The miliary eruption. to supervene on them after the fourteenth day, sometimes, also, after the twentieth,

whether it be occasioned by the miliary fever being combined with them, or by the depravation, or impurity, or corruption, of the lymph. Sometimes it appears critically, sometimes symptomatically. I have observed the miliary eruption take place critically in the autumnal tritæophya only on the twenty-seventh day, after various changes of the symptoms and fever, thus occasioning a crisis; others again have appeared on the seventeenth day, without any alleviation, or attended with the addition of malignant symptoms. When such complications occur, some deviation from the usual disposition of the fever is discoverable in their progress.

432. Last autumn (an. 1780) I frequently had an opportunity of seeing a great quantity of black blood, sometimes fluid, sometimes coagulated, passed from the anus in the double continued tertians, (which then frequently occurred in consequence of a rainy, cold, and changeable state of the air), taking place about the end of the second day, or a little later, and appearing to have proceeded simply from internal piles. But this discharge in no case proved critical. In all of them it was checked alone by rest, by drink, acidulated spirit of vitriol, and omitting the injections. Such as had a headach from the beginning, and next a trickling of blood from the nose, though not of great magnitude, the pi-

Blood passed
ab ano.

Trickling of blood
from the nose.

laryngeal membrane remaining swelled, and a severe pain being felt in the throat, without remarkable redness or swelling, died in a state of phrenzy, about the end of the third or fourth week.

433. In the summer they approach more nearly to the ardent, bilious, putrid, and colliquative species. But they The summer ones. then, in a few days, sometimes after seven, sometimes after fourteen, or twenty, frequently pass into true intermittents, or are rendered so much milder in their remissions, as to resemble intermittents; whether that happens from the material cause being in some measure diminished, or from the inflammatory diathesis, with which they were combined, being overcome. But that happens particularly when intermittents prevail. When they really They sometimes become intermittents. assume the nature of intermittents, they are easily overcome by the employment of the Peruvian bark. But it is attended with somewhat greater difficulty, when they resemble intermittents only in their remissions. For, in that case, although they have a very marked remission, and their accessions commence with some shivering, or at least coldness of the extremities, What is to be done when they approach to intermittent fevers. which is common in the tritæophyæ; yet they do not always yield to this remedy. But that we may not have recourse to this remedy

fruitlessly, or inconsiderately, our first inquiry ought to be, whether an equally diffused sweat, allaying all the symptoms, succeeds the remissions? whether the urine, which is passed in the mean time, be turbid, or deposit the lateritious sediment, or be more highly coloured than at the beginning of the accessions, and during their progress? and, lastly, whether the accessions themselves return regularly and periodically, accompanied with cold, or shivering, or yawning, and the other symptoms peculiar to intermittents? If these occur, there is reason to expect that they will be removed by means of the cinchona. But when they are neither aggravated with cold, although they experience a remarkable remission, and the urine does not thicken during the remissions, and is not of the lateritious kind, it is much more difficult to judge whether they will yield to this remedy. For it has frequently been observed, that they have re-

When they yield
to the cinchona.

sisted the bark in such a case. But then, if the accessions return at regular periods, and the patient is affected with manifest, and, as it were, sudden lassitude, pain of the back, joints, and head, thirst, anxiety, and inquietude, resembling the nature of intermittents; and, next, if all the symptoms a few hours after are mitigated, affording relief to the patient, as in the intermission itself, attended

with a gentle sweat, or remarkable moisture of the skin, it cannot be doubted that they have assumed the nature of intermittents, and that the bark is the remedy to which we ought to have recourse. And this will appear much more certain, if the remissions happen in the evening, or at night, by which, on the other hand, true continued remittents, and especially all the *cathemerinæ* and *tri-tæophyæ*, so far from being alleviated, are aggravated. The autumnal ones, although intermittents are not then wanting, do not pass readily into intermittents, nor do they readily yield to the bark; because, perhaps either the thicker diathesis of the fluids, or the scantiness of the perspiration, prevent its effect.

434. It must, therefore, be carefully remembered, that each of these species, (419. to 425.), not only from the The varieties of these fevers. above-mentioned causes, or from the badness of these causes, or from being combined with other diseases, or from the state of the air; but also from their being sporadic, epidemic, endemic, benign, or malignant, or contagious: are attended with no small variation in the symptoms, require some difference in the plan of cure itself, and terminate in various ways. All which it is the business of a judicious practitioner to cautiously observe, that he may not commit any mistake, either in pronouncing his

opinion of the nature of the fever, and of the termination it is likely to have, or in administering the remedies adapted to the cure of it.

435. Lastly, it is proper to apprise students, that ten distinct species of fever were comprehended by Sauvages under this one genus, four of which, however, seem rather to belong to intermitting fevers. For the *tritæophya syncopalis* *, the *tritæophya elodes* †, the *tritæophya carotica* ‡, the *tritæophya deceptiva* ||, belong to intermittents; the three former to the *comitatæ perniciosæ* of Torti, the fourth to his *subcontinua*. But whoever takes the trouble of consulting the description of the *tritæophya lactea* given by Ettmuller §, will at once perceive nothing more than the symptoms of inflammation, produced by milk coagulated in the breasts. But he has, with good reason, referred to this genus the *tritæophya* described by De Haën **; which is, in fact, to be classed among the ardent fevers, and the periodical malignant and epidemic *lipyriæ*. In like manner, under the head of the *malignant, putrid, and epidemic tritæophyæ*, not to mention others, comes that fever which was observed in the year 1768, at Rome, by a very respectable practitioner, I mean Torraca ††.

* Sp. 1. † Sp. 4. ‡ Sp. 6. || Sp. 9. § Sp. 7. ** Sp. 3.
 †† *Dell' epid. constit. di Civita vecchia, nell' ann 1768, Rom.*
 1758.

REMITTING FEVERS,

WHICH OBSERVE SOMETIMES THE QUOTIDIAN, SOMETIMES THE TERTIAN TYPE.

436. Hitherto I have been describing those remittents which constantly observe the quotidian or tertian type ; it now remains to treat of those, the type of which is more uncertain, and less constant, than in the species already noticed. For there are some of them which follow the order of one or other type, and are, therefore, referable to neither, but proceed sometimes in the manner of the one, sometimes of the other. I shall, therefore, undertake to describe certain kinds of them, which appear to me to be more remarkable, that this chaos of fevers, by being subdivided into subordinate parts, may be exhibited in a clearer and more distinct point of view.

THE SLOW MALIGNANT REMITTENT*, CALLED
NERVOUS FEVER.

437. This fever is characterised by a remission in the constancy of the paroxysms ; but an exacerbation takes place Character of the fever. sometimes every other day, sometimes, like the erratic fevers, daily. It differs

from the other continued tertians, or *tritæophyæ*, or from the quotidians, or *amphimerinæ*, in proceeding very slowly, and in being attended with scarcely any, or very little, quickness of the pulse. Hence it is justly named *remitting* and *slow fever*, to which the term *malignant* is added, on account of the appearance it puts on, and the hidden nature of the complaint, together with the lowness of the strength. And, as in it the brain and nerves seem to be particularly affected, and all the functions in a languid state, by some it has been named *slow nervous fever*, carefully to be distinguished from the other fever of the same name, (270.), which is a continent one, and has been already described.

* Synonyms. The *febris nervosa remittens* of Sauvages, Nosol. cl. 2. gen. vii. sp. x. The *nervous fever*, or that *from the spirits*, of Quincy, p. 370. The *febris tritæophya typhodes*, of Mangetus, Sauvag. Nosol. l. c.

438. At the commencement of the disease, the strokes of the pulse are small, short, and frequent, nay, sometimes slow, or unfrequent; the patient is pale, languid, and generally has a propensity to coma. There is scarcely a greater degree of heat than natural, sometimes there is not the usual degree of it; and there is hardly any, or very little thirst. During the first days of the complaint, some intervals occur, in which the patients seem so

History of the
disease.

much relieved for a few hours, that the disease appears not only to remit, but even to intermit. But shortly afterwards, some shivering, or rigor, coming on, the fever again returns, with the symptoms already explained, and, as has already been observed, in its periodical accessions, it resembles the disposition and type of intermitting fevers. After a few such changes, the patient at length becomes bed-fast, and insensible, neither knowing nor regarding the danger in which he is placed, nor any person that is near him. He catches at, and handles, whatever comes in his way; he stammers and mutters, or remains stupid, silent, and appears half-dead. He is sometimes distressed with spasmodic affections about the stomach and breast, which rouse him to action; or he is affected with dry cough, or tremor, or subfultus tendinum. If he does not sink under these, and the complaint is long protracted, his face becomes completely cadaverous. Towards the end of the disease, sometimes spots, or petechiæ, break out on the skin, which appear either of a florid red, which is a better sign, or, what is worse, livid. A diarrhœa also supervenes. The stools are black and fetid, and the urine is not much otherwise. The senses are obscured; the eyes are scarcely affected by light; and the hearing generally becomes dull, which is a favourable symptom. But the deafness is frequently suc-

ceeded by a discharge of pus from the ears. In some cases, the fever is resolved very slowly, sometimes after forty days, at other times not before two or three months; but such as recover in this manner, remain so dull, that they do not recover the acuteness of their intellect and senses for a long time after.

439. The preceding causes are generally excessive evacuations, by which the body is greatly debilitated, scarcity of provisions, want
 Causes. of nourishment, great exertion both of the mental and corporeal powers, immoderate venery, old age, a damp and stagnant atmosphere, an epidemic miasma, and sometimes contagion. From which I infer, that the whole body is in a state of languor; next, on the fever arising, that the nervous influence, and muscular power, become quite torpid, as is manifest from its symptoms (438.). But since that does not always proceed from poisonous exhalations, or from a malignant miasma, inimical to the nervous system, it is probable, that sometimes, not only all the solids are excessively relaxed, but also, that a watery, fluggish, and viscid colluvies, oppresses the brain and nerves, diminishes, and, as it were, checks the sensibility, giving rise to the insensibility, alienation of mind, loss of strength, and want of frequency, or languor of the pulse. But if, with such a colluvies, we conjoin vellication, or any

power of pricking or irritating, we shall easily be enabled to account for, not only the fever, but also the shiverings, spasms, tremors, and other symptoms arising from thence. And, as it is probable that the nervous system is sometimes more, sometimes less, overwhelmed and vellicated; it likewise follows, that all the symptoms are occasionally aggravated, and at other times diminished, while the disease thus proceeds through certain courses, but with such slowness and inactivity, as corresponds with the lentor and tenacity of the morbid fluid, and the atony and torpor of the solids. Hence also, I think, appears the reason, ^{The appearance on dissection.} why, after death, the organization of the brain is found relaxed, or hydrocephalus internus, dropsy of the medulla spinalis, or suppurations and abscesses of the encephalon, are discovered. Under such a degree of languor, therefore, as the viscid and sluggish fluid ought to be resolved and digested very slowly, and the congestions and collections in the minute and relaxed vessels of the encephalon, or in the intervening spaces, are very difficultly dissolved, or the hurtful agent resident in the nerves being expelled from thence with difficulty; no one will wonder why the disease is of such long continuance, and is sometimes terminated even by insensible resolution.

440. According to the varieties of temperament, age, habit of body, of the blood and other fluids, and according to the different combinations of causes, and according to the greater or lesser propensity to colliquation or putrefaction; it is not difficult to understand, when diarrhœa, petechiæ, fetid and turbid urine, or other kinds of evacuations, may supervene, or ought to be expected. Hence it is proper to

Variations of the symptoms, according to varying circumstances.

know, that the same cure is required in this case as in that of the slow nervous continent fever, treated of already, (283.); it must be remembered, that copious bleeding and purging will prove hurtful; and, on the other hand, that all the remedies which excite the nervous influence, and increase the vital powers, as cordials, analeptics, stimulants, volatile things, wine, soup of vipers, ambergris, blisters, and generous diet, afford remarkable relief.

The cure.

441. This kind of fever occurs both *sporadically* and *epidemically*, as may be observed by attentive practitioners. It has already been shewn (438.), that sometimes, when the disease is of long standing, or deeply rooted, that is, when the fluids undergo putrefaction, an eruption of petechiæ appears on the skin. I must not omit to mention,

Sometimes the miliary eruption supervenes.

(438.), that sometimes, when the disease is of long standing, or deeply rooted, that is, when the fluids undergo putrefaction, an eruption of petechiæ appears on the skin. I must not omit to mention,

that sometimes, in place of petechiæ, the miliary eruption breaks out here and there, about the eleventh or fourteenth day; nay, in some constitutions this fever is conjoined with slight inflammation of the brain, so as to appear somewhat to differ, both with respect to symptoms and method of cure, from that just described. The headach is then more severe, there is greater throbbing of the temporal arteries, the eyes are inflamed, and impatient of light, there is most distressing watching, and, if there be any propensity to sleep, it is not of the natural kind, and rather approaches to the *coma vigil*. In such a case, it is advantageous to have immediate recourse to bleeding, especially by means of cupping-glasses, and all kinds of revulsion. It would perhaps be proper to refer to this place the *amphimerina miliaris* of Sauvages*, or the *febris maligna cum obscura cerebri inflammatione*, which raged in the autumn of 1757, and was noticed by Martellus de Grandvillers†.

It is sometimes conjoined with a slight degree of inflammation.

The treatment proper in that case.

* Sp. xi. † Journal de Vandermond, t. viii. p. 275.

THE REMITTING FEVER OF OLD PEOPLE, ATTENDED WITH DROWSINESS *.

442. Old age itself, according to the proverb, is a disease. For it is subject to a great many ailments, which are in a manner peculiar to it, among the variety of which we do not consider as the most inconsiderable, the remittent continued fever, with which old people in a state of decrepitude, or nearly so, are affected, and by which they are generally cut off. It is called *soporosa*, because it comes on either with great heaviness and deep sleep, or at each accession is generally combined with them, differing widely, both in its nature and treatment, from the *lethargic* fever of Torti (169.), or the *soporosa* of Werlhof. No one, as far as I can find, has written a more careful and accurate account of this fever than the very learned and experienced Le Roy. Since, therefore, this fever has often occurred to me in the course of my practice, attended with nearly the same marks with those, of which Le Roy makes mention; I hope I shall do an acceptable thing to students, by subjoining my own remarks to his, in treating of this fever, which is but little known, and of which even no mention is made by most writers.

It differs from the febre soporosa of Torti and Werlhof.

* *The malignant fever aggravated with deep sleep ; or, simply, the malignant fever of old people (a), mentioned by Le Roy. Melang. de Physiq. et Médecin. Prem. Mem. sur les fevr. aiguës, p. 171.*

(a) It has already been said, that the name of malignant fevers was given by Le Roy to all acute fevers attended with greater danger than usual, which others deny to be *malignant* in the proper sense of the word. *Second Mem. sur les fevr. aiguës, p. 232. and p. 266.* In this sense, therefore, and no other, it is here named *malignant*.

443. This fever has very manifest accessions, which proceed, sometimes after the manner of the double continued tertian, sometimes after that of the quotidian ; generally, however, when they resemble the quotidian in the hour of the invasion, every alternate one is more severe. It might therefore be called the *tritæophya duplex soporosa senum*. But I have generally found, that these accessions occur on the even days ; although I have not unfrequently observed, after the fourteenth day, the uneven days, on which the milder accessions beset, changing their order, and rendered worse, and at length becoming, as it were, erratic, vague, and irregular, although the fever experienced an aggravation daily. The fever is commonly preceded by sensible coldness of the extremities, especially of the nose, hands, and feet, of longer or shorter continuance,—but attended with no shivering, if it be not combined with other diseases,

Its description.

or internal taints of long standing,—the surest sign of fever being about to appear. About the last days of the complaint, the coldness is sometimes so protracted as to continue ten, fourteen, or fifteen hours, before the heat appears, and the pulse becomes more violent and expanded. When this happens, especially when, besides the feet, the thighs also are cold, a very bad accession may be looked for, which frequently cuts the patient off. But death is still more certainly indicated, by hiccup being superadded to long-continued coldness.

444. But two particular pathognomic symptoms are afforded by the head and pulse, according to their condition during the accession, or as it draws to a close.

Two pathognomic signs.

And, first, with regard to the former; in the first paroxysm of the fever, it is generally oppressed with an apoplectic stupor, as it were; but, on its being overcome, or taking a turn, the drowsiness is shook off, the mental faculty returns, the senses are restored, and no part of the body is found in a state of paralysis. This slight attack of the complaint is difficultly distinguished from a slight attack of apoplexy, until the succeeding one being accompanied with the same comatose affection, removes all manner of doubt. But, as I have already said, that seldom happens. For more frequently the fever commences

without remarkable stupor or sleep ; after which they supervene on the second or third accession only ; the sleep, how-
 ever, is not of the same degree at each accession of the fever. Generally it gradually increases at each accession, in such a manner, that in the last but one, or the last, the patient becomes really apoplectic. It is slighter in the first accessions : for the patient may be roused when called, or shook, but quickly relapses into sleep again, when left to himself, and no longer irritated. Sometimes the sleep is conjoined with delirium, at other times not. Some patients, also, when oppressed by this lethargy, talk childishly, as if their tongues were become paralytic. Occasionally, too, subfultus tendinum, and convulsive motions, are present during the accessions.

445. But every kind of sleep which comes on in fevers, is not attended with equal danger. For, if the patient be easily
 roused, opens his eyes with the usual lustre, and moves them about ; if his looks have the natural appearance, if his answers are coherent : sleep of this kind portends little or no danger. If, on the other hand, he is roused from sleep with difficulty, and, when awakened, his eyes appear dull, roll in his head, squint, or are turned up ; if they are red, turgid, and, in some measure,

The deep sleep,
the first symptom.

Signs of good and
bad sleep.

protuberant, or appear languid, dim, or wan,—although I certainly have sometimes observed them retain their natural appearance in such cases ;—and if delirium is present : then the sleep has a tendency to lethargy, and threatens the worst event. Of which kind is the sleep accompanying the accessions of this fever.

446. Enough, then, of the symptom afforded by the state of the head ; we shall now pay atten-

The second
symptom, afford-
ed by the pulse.

tion to the nature of the pulse. During the remission it is found uniform, high, not very frequent, especially on the first days of the complaint ; but, at the height of the accessions, it is much quicker, and likewise small, unequal, weak, and sometimes so obscure, as the disease draws to a fatal termination, that at length it can scarcely be felt at all. It is surprising, however, that, while this is the state of the pulse, the skin is frequently as it were parched, and that the patients, while they are cold externally, generally complain of a most uneasy sensation of heat internally. Such are the particular, and, as it were, peculiar affections of the pulse in this fever. I must not, however, omit to mention, that in some, at the height of the accession, it is strong and full, which even Le Roy grants as happening, though very rarely ; but that in others it is found to intermit and vary. The physician, therefore, to

acquire a thorough knowledge of the symptoms peculiar to this fever, ought to visit the patient frequently, but principally when the paroxysm commences, though that should happen at night. For thus the faithless variation of the disease will nor escape his notice.

447. I have already observed, that the sleep for the most part is gradually increased in the accessions from the beginning to the end ; and that the accessions themselves come on and remit regularly and distinctly. It must be remarked, however, that they are gradually so lengthened, as at length scarcely to remit at all, becoming confused as it were, or having only small and very short intervals of remission. Although this generally be the case, it occasionally happens, that some patients, during all the remissions to the end, not excepting that which precedes the fatal termination, appear so refreshed and relieved, that their friends can scarcely be persuaded of their really being in imminent danger : while the patients themselves have a strong presentiment of what awaits them, and declare themselves resigned to their fate, at the same time requesting the good offices of their friends, in preparing them by the aid of religion to support their last hour.

Varieties in the
accessions.

448. Sometimes, about the seventh or eighth day, the paroxysms become so mild, that the in-

terval of remission from one accession to another is extended to the length of twenty-four, or thirty-six hours ; thus, from being a double, becoming a simple *tritæophya*. We must then beware of prematurely pronouncing a favourable prognosis ; especially when no evacuation, or critical eruption, to which so great a change ought to be ascribed, precedes. For it has frequently happened, that, after so long a cessation from fever, the complaint has returned with greater violence, and taken the incautious practitioner at a disadvantage.

Fallacious changes of the remissions.

The tongue is generally moist, and all along like the natural one, excepting in those patients who, being oppressed with sleep, breathe with their mouth open, for in such cases it becomes parched and rough ; although I have also occasionally seen it grow dry from the heat of the fever, while not unfrequently, after the violence of the fever had subsided, although they still breathed with their mouth open, it remained moist and soft.

The tongue sometimes dry.

449. Nor is it an uncommon occurrence, according to Le Roy, while the disease is drawing to a close, for a swelling of one or other, or both, parotid glands to come on, which is often the forerunner of immediate death ; or for symptomatic petechiæ to break out, indicating an equal degree

Unusual symptoms.

of danger. But in those persons labouring under this complaint, whom I have attended, I never found any of these things take place; from which I conclude, that they are by no means peculiar to it, and that, if they ever really happen, it is when some malignity, or putrid colluvies, is combined with it. And I should suppose, that this is a case in which the alvine fæces become thin, and are frequently passed, attended with a peculiarly fetid smell, and such effluvia are said to arise from the patient's body, that one cannot remain long in air impregnated with them, without being seized with headach, which is of short continuance however, quickly ceasing on the person's being removed into the pure air, and remaining there for a little.

450. This fever is extremely dangerous, and generally proves fatal. It never has
Its rise.
 been known to be communicated
 by contagion, or to prevail epidemically. It usually attacks old people here and there sporadically, from some evident and pre-existing cause, though slight, especially during the autumnal season, or at the beginning of winter, when the cuticular discharge has been diminished by cold or damp weather. It terminates in
Its termination.
 death, sometimes on the seventh, eighth, or ninth day, more frequently on the eleventh or thirteenth. Le Roy never knew an

instance, in which it proved fatal, of its being extended beyond this period. He does not deny, however, even when the fever does not quickly terminate fatally, that the patient is left in so poor a condition, as to live a little longer in a miserable state, but at length sinks under the complaint. I confess that this is gene-

It sometimes proceeds slowly.

rally the case, as this learned writer observes : but I once treated a man of seventy years of age, labouring under this fever, combined with a bilious depravation of the chyle and an old ulcer of the bladder, who, after the complaint had undergone various remarkable changes, at length fell under it on the twenty-ninth day. That the disease is sometimes terminated by a slow death, was lately confirmed in the case of a certain great personage, who, after struggling through the severest and most fatal accessions of the fever, fell into a slow fever, attended with daily exacerbations, and at length, being completely exhausted, and continually in a state of delirium, expired on the hundredth day from the commencement of the attack. And subsultus tendinum, tremors, convulsions, difficult, or great and slow respiration, and intermission of the pulse, increase the danger to a very great degree, and accelerate the catastrophe. But if hiccup comes on, which is common enough, it is a sign that all is over with the patient.

THE FEBRIS HEMIPLEGIACA.

451. We may consider as a species of the *febris soporosa*, that fever which, on account of hemiplegia supervening, The reason of the name. seems to deserve the peculiar denomination of *hemiplegiaca*. This, like the former, attacks such as are not far advanced in old age, but rather those who are approaching to it, and have passed their forty-fifth year. But there is a great affinity between them; for in each of them, the patients, when The affinity between them. they are oppressed with drowsiness, talk inarticulately; the accessions observe just the same manifest type and order, in which a greater or lesser degree of sleepiness comes on the patient; the pulse is nearly in the same state in the accessions and remissions. In the former the tongue becomes paralytic, in the latter the side; all which things indicate a similarity between the affections. But they are not attended with the like danger. The species called *soporosa* in most cases proves fatal; which the other does not, fewer sinking under it, and many being preserved. If, however, in its accessions, the pulse becomes small, weak, and irregular, it may be equally fatal as the *sopo-* The hemiplegiaca less dangerous. *rosa*; for even the cardiac nerves

seem in some measure to have become paralytic. Likewise, if the organs of deglutition become paralytic ; if starting of the tendons occurs, if the head, eyes, or lips, are at the same time convulsed, it intimates such danger as to deprive us of all hopes of a recovery. But it is necessary to pay particular attention to the respiration ; for the more it swerves from its natural condition, (as generally happens in a remarkable degree when the *par vagum* and intercostal nerves are affected), the more imminent is the danger.

452. This fever might appear to some to be the same as the *lethargica* of Torti, or the *soporosa* of others, as being in like manner extremely hostile to old people, and often combined with hemiplegia, or apoplexy, or palsy (169.). But it is distinguished from these *perniciosæ comitatæ*, 1. because it is a continued fever ; 2. because it is sporadic, while the *comitatæ* are generally observed to be epidemic or endemic ; 3. because in the *hemiplegiaca* and *soporosa*, the accessions commence with chilliness, which is of long continuance ; while, in the former, they begin with shivering, or simply with the pernicious symptom common to them without cold, or shivering, or at least with very transient cold, which can scarcely be perceived ; 4. because in the former, the tendency to death is extremely rapid, but in this more tardy ; 5. because

How it differs
from the *soporosa*
comitatæ.

the urine is quite different. In the *comitata* it is scanty, thick, and deposits a lateritious sediment; in the *soporosa*, or continued *hemiplegiaca*, it is crude, copious, without sediment, or a smooth divided cloud floats in the middle of it; 6. because the former can certainly be removed by the Peruvian bark; while this fever by no means yields to it.

453. Le Roy, while he investigates the causes of the disease, and its symptoms and fatal termination, thinking it highly probable that they all proceed from

Appearance of the
brain on dissec-
tion.

a peculiar affection of the brain, complains of the deficiency of anatomical disquisition, in consequence of which we cannot comprehend what in fact that affection is on which the disease depends. He mentions, how-

First dissection.

ever, that, in a patient who died of this fever, in a state of hemiplegia, he found an abscess in one of the hemispheres of the brain. The appearance, on dissection, in the prince of whom I have already made men-

Second dissection.

tion, as described by my excellent friend Spezzani, cannot be better understood than by transcribing the account communicated by him to myself. The dissection was commenced on the second day after death. Upon the external surface of the body appeared certain livid spots, some of them broad, which covered the hypogastrium, others less, which were observed on the ancles,

and at the extremities of the toes, and a remarkable ulcer of long standing, extending from the top of the os sacrum to the nates. On opening the abdomen, the stomach, intestines, liver, pancreas, omentum, mesentery, kidneys, and bladder, were quite natural, excepting some variations, not unusual, which were exhibited in the course of the intestinal canal, and position of the omentum. But the spleen appeared uncommonly small, probably in consequence of the compression it sustained for a long time from a hydatid, which being formed in the superior part of the right kidney, was raised upwards, in a great measure occupying the cavity of the hypochondrium, destined for containing the spleen and stomach alone. The water which it contained measured upwards of three pounds, and was slightly yellow, but limpid. In the thorax the heart was found large and firm, and the vessels attached to it equally found and well formed, the strokes of the arteries during life having always been powerful, great, and regular. There was a polypous concretion on the left ventricle, extending to the aorta, which was probably formed immediately previous to death. The posterior part of the lungs was of a darker colour than the anterior, and was also more distended with blood, as used to happen when the patients died on their back. In each cavity of the thorax, but more particularly

in the left, an effusion of some serum, tinged with a deep red colour, was found, which likewise seems to be referable to the laborious respiration at the close of life. Lastly, the head, in which, in particular, the cause of the complaint was to be sought for, exhibited the following appearances: The dura mater seemed to be nearly in its natural condition; all the veins of the pia mater from the extreme branches to the trunks, by which they open into the longitudinal and transverse sinuses, were greatly distended with thin blood; and it is probable they had long laboured under this defect, on account of his Highness having been accustomed from his infancy to wear a tight collar, by which the return of the blood by the jugular veins was very much retarded. Some small fine polypous concretions were found in the veins, as also in the sinuses. The interstices between the veins were filled with a whitish, condensed, and, as it were, concrete matter, by which the pia mater itself was rendered thicker. Between the dura mater and pia mater, and between the latter and the brain, there was an unusual quantity of serum, with which likewise the ventricles were nearly filled. The plexus choroideus was pale, and shewed many small hydatids formed in different parts. The cortical substance of the brain, well marked by its convolutions, seemed somewhat contracted; but the

medullary portion, and the other parts, exhibited no morbid appearance.

454. Morgagni has recorded the dissection of a nobleman, advanced in life, who, after being long subject to a hypochondriacal affection, and vertigo, in November 1705, was seized with a *comatose affection*, combined with what the author considers as a very bad fever, by which he was cut off in about two days. But as Valsalva,—from whom Morgagni has taken the case,—be-

Third dissection. sides delirium, mentions the drowsiness as the principal symptom, it appears probable that this fever did not differ much from that called *soporosa senum*. In the abdomen and thorax “all the parts were found in a sound state; and, although there was a smell of that kind which usually takes place in fevers from worms, in some people causing a watering of the eyes, in others sneezing, worms could no where be detected. On dissecting the brain, water of a thick consistence was found in its convolutions, and likewise where the medulla oblongata descends into the tube of the spine, but in small quantity in both places *.” The following observation seems to apply more directly to the disease of which we are treating; for the person seized with it “approached his sixtieth year; labouring under an acute disease, he was brought into the hospital at the last stage of the complaint,

where he lay in a state of stupor, and could scarcely return an answer to the questions put to him. He often threw off the bed-cloaths, as if he were oppressed with burning heat, although to another person he scarcely appeared as warm as usual, or even at the extremities felt cold. The pulse at one time was hardly perceptible, at another time it again became sensible, but was hard, small, and intermitted. The respiration, however, was natural. After experiencing these symptoms during the latter days of the complaint, he expired about the fourteenth.” Which description, in general, exactly corresponds with that given in par. 446. “Having opened the abdomen and thorax, the stomach and intestines are found slightly suffused with redness, as if they had been in a state of incipient inflammation; in the ventricles of the heart, however, the blood was thicker, though fluid. After removing the cranium, while the dura mater was divided, and the brain taken out, a small discharge of limpid serum took place. Likewise, under the pia mater, which shewed slight symptoms of having been inflamed, the furrows, which dip down between the convolutions of the brain, flowed with the same serum. Lastly, in the lateral ventricles, a small quantity of blood-coloured serum was discovered †.”

Fourth dissection.

* Epist. anat. med. de sed. et caus. morb. Ep. vi. n. 2.

† Ibid. n. 8.

455. From these dissections, though not numerous, it appears very probable, that in this fever the brain labours under nearly the same vitiated states which have been discovered by anatomists in other lethargic affections *, generally consisting either of abscesses of the brain, or a collection of gelatinous lymph betwixt the dura and pia mater, or of serum, whether limpid or thick, turbid, or even bloody, stagnating in the brain, or effused into its ventricles ; or, lastly, of immoderate distension and infarction of the blood-vessels, with which the pia mater and brain itself abound †. Moreover, it would appear, that the more frequent cause is, dilatation of the vessels, and a ferous and viscid colluvies overwhelming the brain and its ventricles. All which things—in old people, who perspire little, in whom generally there is a superabundance of pituitous and crude humours, who are particularly liable to indurations of the vessels of the brain, or to atony, the very opposite condition, and therefore are highly predisposed to congestions and collections of the fluids—begin to take place gradually, and imperceptibly increase to such a degree, that at length, on the supervention of some proper exciting cause, they fall into this shocking and fatal complaint. I shall not enter into the dispute about the various ways in which such a ferous col-

lucies may take place in the brain, partly because I consider that as being rather the province of general pathology, and partly because it will be more particularly treated of under the head of apoplexy, and comatose affections of a similar stamp. Nor shall I just now inquire, whether fever be always excited by such a cause, or whether it arise from some other cause, and be only combined with it, or occasion or aggravate it; since that would lead me into an investigation of too great length. This, however, seems to me probable, that the ferous collucies may cause the stupor and sleep, but not the fever, unless there be some acrimony present in the ferous humour, or some inflammation of the membranes and brain be conjoined with it, in consequence of which the medullary fibres and nerves attached to them are irritated, so that, spasm being induced, first coldness of the extremities follows, next the motion of the heart and arteries is increased, and all the fluids are thrown into agitation, and effervesce. On the same vellication of the brain, it is evident, that the delirium, subsultus tendinum, and convulsions, ought to depend; and, if ever the compression prevails over the irritation, it is manifest, that the parts corresponding with those which are compressed in the brain, as the tongue, fauces, one or other side of the bronchia, and one or other leg, become resolved as in para-

lysis and hemiplegia. But since, in consequence of the motion of the fluids being increased by the fever, the ferous colluvies is gradually hurried into the circulation, and the brain is relieved both from the compression and irritation, it is probable that the senses return, the sleep is shaken off, and the fever gradually subsides, until, the congestion within a certain time being again renewed, the accession again returns, sometimes sooner, sometimes later, sometimes more forcibly, at other times less forcibly, according to the variation of its quantity or irritating power, attended with nearly the same symptoms.

* Bonet. Sepulchr. t. 1. sect. iii. Also Morgagni Epist. Anat. Med. Epist. vi.

† Morgag. ibid.

456. It likewise often happens, that an inflammatory diathesis of the blood, especially at first, is conjoined with this cause; or an erysipelatous inflammation of the viscera internally, in consequence of which thirst, heat, hiccup, anxiety, and coldness of the extremities, as in the true lypyriæ, concur together. According, therefore, to the variety, concurrence, or complication of other symptoms, the magnitude and danger of the fever, as well as the symptoms, must necessarily vary not a little. In the old man of seventy, therefore, whom I already mentioned (450.) as having died on the 29th day, during the first days

Variations in complication affecting the appearance of the symptoms.

of the disease, after recovering from the cold of each accession, his pulse was strong, hard, and vibrating, and the blood drawn tenacious, firm, and covered with the buffy coat. But, in the progress of the complaint, and especially after the fourteenth day, the coldness on the surface became almost perpetual, while he complained of excessive heat internally, and intolerable thirst; and, lastly, the pulse became so fine, small, and irregular, that, as in asphyxia, it sometimes became almost imperceptible, while the senses still continued entire, though somewhat languid. To these pernicious symptoms was added first a thin, fetid, colliquative diarrhoea, and next a tympanitic swelling of the abdomen. But in this patient, besides the sleep that accompanied the paroxysms, there was an abscess in the bladder, that for a long time discharged with the urine, which came away spontaneously, as happens in incontinence of it, a great deal of very fetid pus, without remarkable uneasiness. That the bladder was principally affected, was manifest from a large tumor in the hypogastrium, that could easily be felt by the hand. Hence, perhaps, arose the hiccup, with which the patient was distressed during the last days of the disease.

457. In this fever I would propose no other plan of treatment than that mentioned in the general cure (42.).

The cure.

For in general all remedies prove inefficacious. If

any of them have ever proved of service, we are assured that their good effect must have proceeded from bleeding, from employing wet cupping-glasses, and chiefly from cantharides applied to the nape of the neck, to the arms or legs, nay, to the head itself, producing ulcers there, which are to be kept open for a length of time. In one word, all those things which produce revulsion from the head, excite the nervous influence, rouse the vital powers, diminish and draw forth the quantity of serous fluid, are proven by experience to be preferable to other remedies. Le Roy affirms, that the liberal employment of finely-powdered bark has sometimes turned out well. But the Peruvian bark is completely inert in this fever, nay, sometimes aggravates it, as I have repeatedly found by experience. Probably, when it has proved serviceable, the fever was an intermitting one of the *pernicious* kind, attended with drowsiness, such as we have elsewhere remarked, with which the fever now under discussion may easily be confounded.

THE PUERPERAL FEVER OF THE MODERNS*.

458. There is no reason why puerperal women should be exempt from whatever other diseases and fevers attack women in general. Hence

it is not unusual for them to be attacked with peripneumonia, pleurisy, angina, apoplexy, catarrh, rheumatism, continued or intermitting fevers, both benign and malignant, small-pox, measles, the miliary eruption, and other complaints, from common and accidental causes; so that there is scarcely a disease into which they do not occasionally fall. For why should they be exempt from the miseries which are the lot of humanity? But, besides, they are not free from certain diseases peculiar to parturition. When we treated of the *milk-fever of puerperal women* (357.), I then not only explained its different varieties, but I briefly pointed out certain secondary or symptomatic fevers, which are occasioned by too copious a congestion or coagulation of milk in the breasts, or by inflammation of the uterus, or by an unexpected metastasis of the milk, or lochia (365. and 368.). But it remains for me here to treat of an acute fever,—sometimes aggravated daily, sometimes every second day,—by most authors esteemed malignant or putrid, said particularly to attack lying-in women, and occasioning great danger. As it is supposed to be peculiar to puerperal women, it is named by several modern writers *puerperal fever* †, as if it were

Puerperal women
not exempt
from general
diseases.

The fevers peculiar to them.

a new kind of fever, and altogether unknown to the ancients, without any precise denomination, and not referable to any fever formerly known.

* Synonyms. The *Febris puerperalis* of Edward Strother, *critic. febr. or a critical essay on fevers*, c. ix. p. 212. The *Puerperal fever* of Hulme, Lond. 1718. *A Treatise on puerperal fever*, &c. and Leake, *Practical Observations on Child-bed Fevers*, &c. The *febris puerperarum* of White. The *febris lochialis vulgo in Anglia dicta, sed perperam*, of the same author. The *febris lactea puerperarum* of Le Roy, *Prem. Memoir. sur les feivr. aiguës*, p. 196. The *febris putrida puerperis superveniens ex bilioso humorum apparatu, vel ex dietæ erroribus*, of Riverius. *Prax. Med.* l. 15. c. 24. The *febris putrida puerperarum* of Raym. Jo. Fortis, *De febr. et morb. mulier.* p. 484. The *febris putrida, seu potius maligna puerperarum*, of Willis, *De febr.* c. 16. p. 76. The *febris uterina a partu tam humoralis, quam nervosa*, of Raulin. *Traité des malad. des femm. en couche*, sect. iii. c. x. p. 219. The *febris miliaris complicata, sive putrida maligna*, of Gastellier, *Traité de la Fievr. miliare des femm. en couche*, p. 6.

† According to Hulme, the first person who wrote concerning this fever, and employed the name by which it now goes, was Strother, in his *Criticon Febrium*, &c. published at London, an. 1718.

459. That this fever is not new, nor overlooked by the ancients, is easily gathered from the works of the oldest writers, as is very properly observed by Van Swieten *, White †, and others even of those who have adopted its new denomination, and expressly written on the

The puerperal fever known to the ancients.

subject. But it no where appears more clearly that this fever was known to the ancients, and very accurately described by them, than in the first and third book of the Epidemics of Hippocrates †, in which eight histories of puerperal women labouring under it are recorded, bearing the most perfect resemblance to those described by modern authors. It might almost be supposed that some of them had been transcribed from Hippocrates. All manner of praise, however, is due to these authors for endeavouring, by new and repeated investigations, to throw light upon it ; although it does not appear sufficiently clear that the utility derived from their works corresponds with the number of the authors, or the severity of their labours. For, concerning the nature, causes, and cure of this disease, I find such diversity of opinion prevailing among them, that it becomes no easy task for students to determine, to whom credit ought to be given, or by whose opinion they ought to abide. Therefore, before proceeding to its description, respecting which there is the like difference of opinion among physicians, I think it will be worth while to give a slight view of the principal theories, which have hitherto been published, concerning the nature and origin of the puerperal fever, and have occasionally given rise to a great deal of debate. At the same time, I shall give their arguments as im-

partial an examination as I can, in order to pave the way to the true pathology and treatment of the disease ; which I consider as the principal object of our plan.

* On Boerhaave, § 1329. † L. c. ‡ Lib. i. epid. sect. iii. ægrot. iv. v. xi. lib. iii. sect. ii. ægrot. x. xi. xii. sect. iii. ægrot. ii. xiv.

460. Since the time of Puzos, Levret, and others, who have published on the subject, it has become a common opinion among the French, that in consequence of the milk being retained within the blood, in puerperal women, arise not only various severe complaints, as apoplexy, peripneumony, and abscesses, thence called *lactéal*, but also the very fever of which we are writing. The chief of these authors is Le Roy, who tells us, that it is wisely ordered by nature, that some remarkable change in the animal economy should take place after delivery, by which the milk, which was carried to the uterus for the nourishment of the fœtus, may immediately be directed to the breasts to be sucked by the infant. If, either in consequence of an error of nature, or some other cause, this necessary and salutary operation is impeded, and the secretion of milk in the breasts becomes defective, and is not supplied by the dis-

The French derive it from retention of milk.

charge of the lochia in sufficient quantity ; then the bad consequences already mentioned, in consequence of the milk being mixed with the blood, and not separated from it, must necessarily arise *.

* *Prem. mem. sur les fevrs aiguës, p. 202. et seq.*

461. He concludes that this is the truest, and most frequent, of all the causes of the *febres perniciosæ*,—in opposition to the opinion of the ancients, who are said Their reasons for thinking so. to have ascribed them generally to retention of the lochia,—1. Because such women as do not suckle their own children are more predisposed to these fevers ; or, if they escape them, become liable to emaciation, hysteria, vertigo, or troublesome cough ; while such as give suck to their children, or nurses, are exempt from them. 2. Because milk collected or coagulated in the breasts is the cause of the tumors, inflammations, and abscesses, with which such females are troubled. 3. Because the milk floating in the blood, being at length carried to a particular part, sometimes situate internally, sometimes externally, frequently settles there, and, in consequence of being collected, occasions various tumors, both of the lymphatic and inflammatory kind. 4. Because the bodies of patients, when opened, plainly shew that such abscesses,—which are generally found about the uterus, and

its ligaments, or about the iliac and psoas muscles, or in the cellular membrane of the peritonæum, and other parts in the neighbourhood of the uterus *,—are justly named *lacteal*; as he himself found in the abdomen of a woman, who had died of puerperal fever, a quantity of serum, in which clouds resembling coagulated milk were observed floating. 5. Because the lochia in a great measure consist of certain lacteal fluids, which, if that discharge be suppressed, being retained, contaminate and infect the blood itself. For he denies that this fever originates from the lochia being checked and retained, on account of their suppression generally succeeding, not preceding, the fever. 6. Because practitioners of the greatest experience feel much satisfaction in observing a copious secretion of milk take place in the breasts of puerperal women, and draw a very favourable prognosis from it; and, on the other hand, are apprehensive of danger, if, in consequence of no secretion of milk taking place, and the breasts remaining flaccid, a severe fever comes on.

* Puzos *Second. mem. sur les Dupots laitoux*. Item vid. Levret. *L'art des accouchem.* p. 146. 147. 150. et seq. Chomel. *Acad. des scienc. l'an 1728.* *Mém.* p. 581. et seq. Lastly, *Acad. des scienc. l'an 1746.* *Mém.* p. 160.

472. Such are the arguments employed by those who, with Le Roy and other French au-

thors, derive this fever from the milk being retained in the blood. But so violent is the prejudice of the vulgar in this respect, that, whatever cross accident befalls puerperal women, is immediately ascribed, not to say by physicians and surgeons, but by the mere ignorant, to this cause. But many well-founded objections oblige us to reject both their reasoning and deductions. For, 1. it is neither milk, nor a milky fluid, nor

is it chyle, which is carried to the Their arguments refuted.

uterus to nourish the foetus; but blood and finer fluids secreted from it are destined for that purpose, as all sound physiologists are at length agreed *. But let us grant that it is in fact the chyle, or lacteal fluid, which is carried to the uterus for the nourishment of the foetus, it may next be asked, I presume, whether that chyle, or lacteal fluid, be carried by the usual passages of the blood to the uterus, or whether it descend to it from the receptacles of the chyle by vessels set apart for the purpose, without having connection with the blood? If the first supposition be admitted,—and certainly it is more consistent with anatomical truth,—although it be mixed with the blood, how can it be asserted that any bad consequence results from such a mixture? Hence no harm can be occasioned, either by its flowing back from the uterus to the blood, or by its being retained in the blood. For why should the

fluid designed for nourishing the fœtus, and which is by nature so very bland and mild, prove inimical to the mother? Is not chyle daily mixed with the blood, and retained in it, to repair the constant exhaustion that is going on? But if the other supposition be admitted, I should be glad to have those different passages pointed out to me; and whoever can do so will throw essential light on the subject. After these prefatory remarks, I would still ask, why the chyle, or lacteal fluid, which in man daily flows from the thoracic duct, and by other ways, into the blood, and is retained in it, with impunity to the individual, by being retained in the blood, as they contend, should prove so injurious to puerperal women alone? Nor will the difficulty be removed by alleging, that the lacteal fluid is prepared and secreted in the uterus itself; for the lacteal or *lymphatico-lacteal*, vessels, which some pretend to have discovered in the uterus of a woman †, have not been pointed out so clearly, as not still to leave the matter in the utmost ambiguity ‡. 2. Though what is alleged of women suckling their children generally holds good, namely, that they enjoy better health, and are probably less liable to acute fevers, than those who do not suckle their children,—about the truth of which I have not leisure at present to dispute;—it is no new thing for even them to be seized with puerperal fever, from

which they run considerable hazard, as I myself have more than once had an opportunity of observing. Nay, it is no uncommon thing in this fever, for milk to be secreted in the breasts in great quantity, causing a very manifest turgescence in them ||, to the last stage of the complaint; which is certainly an argument §, that lactation, as being consistent with the intention of nature, may be useful to puerperal women for many reasons, but not on account of its guarding against the retention and reflux of the milk. 3. The complaints, with which women who do not give suck, or long after parturition, are said to be affected, neither always attack them, nor are nurses altogether preserved from them; as they are more generally affected with emaciacion, vertigo, hysteria, loss of strength, and consumption, as the peculiar symptoms of lactation **, than those who do not give suck, unless they be of a strong constitution.

* Frid. Bern. Albinus, *De natura hominis*, § 1504. 1505. Haller *Physiolog.* l. xxix. § 33. 34. 35. 36. Caldan. *Instit. Physiol.* § 508. 524. 525.

† Vieussien, after Verheyen, ii. p. 43. Falconet. Deidier. Fizes, Horn, and others, but especially Astruc (*Malad. des femm.*). “But these authors,” as Haller observes, (l. c. § 30.), “have transferred to man the fabric of ruminating animals.”

‡ Haller *Physiol.* l. xxviii. sect. 2. § 46. 48. where he says: “To these—viz. the lymphatics of the uterus—I refer the vessels

formerly called the lacteals of the uterus," of which he had already treated in book xxvii. But the existence of these vessels is much more confidently denied by Azzoguidi, not only in his *Institution. Medic.* vol. i. § 154. but also in his *Observations concerning the structure of the uterus*, published in the year 1775 at Bologna, where (p. 36. et seq.) he both quotes the authority of Morgagni, which is of great weight, and that of Anna Manzolina, distinguished for her anatomical research, together with the observations of the celebrated Moscatius, professor of anatomy, a man of incredible skill; and likewise mentions the investigation which he himself had often set on foot, with all manner of diligence, to elucidate the subject.

|| Leake, l. c.

§ In the collection of the Medical Society of Hamburgh, published in German by Giseke, (p. 136. to 160.), this fact is confirmed; for in it the author affirms, that the diseases which are generally ascribed to aberration of the milk, such as fever, tumors about the uterus and legs, &c. sometimes also happened to puerperal women who gave suck to their children, and in whom there was a superfluous quantity of milk, while their lochia at the same time flowed as they ought. Vide Pauli Dieterici. Giseke, M. D. *Abhandlungen und Beobachtungen aus der Arzneygelahrheit, &c. or Comm. Lips.* vol. xxii. p. 131.

** Morton, *Phthisiolg.* l. i. c. vi.

463. 4. It must be observed, that sometimes a sparing secretion of milk takes place, nay, that it does not take place at all, while the lochia are not more copious than usual, without puerperal women receiving any injury, much less being attacked with puerperal fever. 5. On the contrary, it has frequently been occasioned

Continuation of
the refutation.

before the suppression of the milk, and after its appearance the breasts have sometimes remained long turgid with milk, and it is not always avoided by those who, at the very first, suckle their children, as will be shewn by instances hereafter to be adduced. 6. It is an established fact, that by stagnation and heat, the milk becomes so vitiated and corrupted, that it may prove injurious to the system by remaining too long, or concreting in the breasts : in which case, however, whatever passes back into the blood, generally, if it be not repelled in too great quantity, and too suddenly, as has already been said, may easily be expelled by nature, either by diarrhœa, sweat, or urine, or by any other way, or by several ways, without affecting the health much, as several great men grant *. But that which has already coagulated, and cannot be resolved, occasions tumors more or less hard, or abscesses, not very difficult of cure, and almost void of danger. 7. As it is probable that some milk is every day added to the blood, by the lymphatics, without injury to the health, as the injections of Meckel seem to indicate †, it cannot be conceived why a liquor so very bland, sweet, and mild, and so friendly to puerperal women, whether retained or absorbed, ought to excite a very bad kind of fever, inflammations, tumors, abscesses, and pains, both internally and externally, unless it had previously

acquired some remarkable taint, or some other cause intervened, as exposure to cold, or some considerable error in diet, to which these complaints might be ascribed with more justice.

* Van Swieten on Boerhaave, § 1329. where he quotes the authority of several very respectable authors, as Peu, (*Pratique des accouchem.* p. 214.), Levret, (*L'art des accouchem.* p. 135.), &c. who own the same thing, from a conviction of its truth.

† *Nov. exper. et observat. de finibus venar. et vasor. lymphat.* Berolin. an. 1772, p. 56. & 57. where he observes: "There would be a very wide field for animadverting on the errors in medicine, to be derived from this source, which so frequently occur in systematic works. In the course of my practice I have repeatedly observed, that old women, and ignorant people, without any cause, have ascribed to the milk's retiring into the blood, almost all the diseases which attack puerperal women, which a skilful physician at once recognises as the effects of inflammatory fever, arising after child-bearing, or of cold, or of some error committed in diet." Leake makes some remarks of a similar nature, l. c.

464. 8. I would ask, if the milk forced back into the blood, while still bland, and by no means acrid, nor vitiated by stagnation, could occasion such dreadful complaints, why nurses, on dismissing their infants from the breast, are not equally liable to them? Of all that I have seen, I never knew of one falling into any serious disease from such a cause. 9. To return to the dissections, on which I feel myself called upon to remark

The refutation
continued.

by such as accuse the milk; the matter like milk, which, they say, is found effused about the intestines and other viscera in the cavity of the abdomen, appears to be nothing but pus proceeding from the omentum *, according to some; or, from other viscera, and parts in a state of suppuration, as the peritonæum, which the English have of late remarked. But the fluid resembling the serum of milk, with which they have observed the abdominal cavity sometimes abounding, was either fine pus expressed from the inflamed intestines, or concrescible lymph poured from them, and in a corrupted state, or chyle from the veins, perhaps the lacteal ones, in consequence of their being ruptured, lacerated, eroded, destroyed by sphacelus, and laid open, discharged gradually along with the lymphatic fluid. Nor is it a new thing for a matter like milk frequently to be met with by dissectors in abscesses, both internal and external, where there could be no cause to suspect the presence of milk, to account for such an appearance †. 10. With respect to the tumors and abscesses of various kinds, which occur in puerperal women about the uterus and its ligaments, or within the iliac and psoas muscles, or in the groin, thighs, and other parts; I think that these—to say nothing of the retention, or metastasis, of the lochia—may more fairly be derived from the gravid and swollen uterus

pressing upon the neighbouring parts, or from the violence these parts have experienced in the repeated throes of child-bearing, or from the circulation of the fluids being checked, or from tenacious and acrid lymph accumulated any where in the cellular membrane, and stagnating there, or from purulent matter generated within the vessels, and at length deposited somewhere by the vital power, instances of which very frequently occur in the writings of physicians.

* Richa (*Constit. epid. Taurin. alter. p. 40. æger 4.*) mentions a puerperal woman, in whom fever, with shivering, supervened on the third day after delivery, of which she died of a sudden on the twelfth day. A great quantity of fetid pus was found in her body, which had flowed into the abdominal cavity from an abscess of the right Fallopian tube. He did not^{sc} hesitate a moment in supposing it to be pus. He moreover found the cavity of the uterus full of grumous blood, the uterine vessels distended and varicose, and the intestines on the outside black and gangrenous.

† Van Swieten (*on Boerhaave, § 75.*)—from the *Hist. Acad. Paris. an. 1729, p. 17. 18*—records an instance of a tumor found in the body of a young nobleman, containing seven pounds and a half of white matter, partly like milk, partly like curds. Lieutaud, (*Hist. anat. med. t. 1. p. 257. & 258.*), from the *Acta Parisiensia*, adduces the account of a *lacteal fluid* found in great quantity in the abdomen of a girl of seven years of age, with a *scirrhus mesentery*, or obstructed with a kind of whitish and cretaceous matter; and likewise from Loffius he quotes the history of a boy labouring under *ascites*, “whose abdomen was found filled with a fluid merely lacteal.” In a

full-grown woman, (*Morgag. Ep. an. med.* 45. n. 16.), who died of peripneumonia within five days, the left cavity of the thorax was filled with serum, "the white colour of which, had there been any symptoms of the presence of pus, one would have ascribed to being mixed with it." Likewise the pericardium was filled with the same white fluid, "so that at first one was apt, instead of the pericardium, to take it for some large open abscess. But the whole internal surface of the pericardium, and the external one of the heart, auricles, and great vessels, was covered with a whitish ash-coloured matter, resembling fresh plaister laid on a wall;" nor yet did the heart, or pericardium, on abrading it, appear to have undergone suppuration. This woman, however, had neither borne a child, nor, as far as could be learnt, had she been about to lie in. A similar matter, also, covering the heart, is recorded in the same place, but at greater length, (*Ep.* 20. n. 37.), to have been observed by Guarinoni. I myself have frequently found, in the bodies of such as had died both of acute and chronic diseases, and indeed in men, the pericardium filled with a liquor like milk, and the heart surrounded with a cheesy substance, on wiping off which, no kind of taint, excepting the remains of a slight degree of inflammation, was discernible. The ingenious Percival (*Essays med. & exper.* &c. p. 232.) mentions that the operation of paracentesis was twice performed on a girl of eight years of age, labouring under ascites and anasarca, and that at each time a great quantity of a fluid resembling milk and water was drawn off. In an infant eight months old, who had recovered from small-pox, three abscesses formed, one about the elbow-joint, another at the inside of the ankle, and the third under the right clavicle and pectoral muscle. On opening them, (*Ludwig. advers. med. prac.* vol. ii. part i. p. 183. et seq.), a purulent, thin, and sanious matter flowed out with the coagulum of the milk, or the caseous grume. Nor has such a matter been found in the cavities of the body and abscesses only, but also in the blood itself. We read in the Hi-

story of the Academy of Sciences of Paris, an. 1752, that, on opening a vein in the arm of a man in good health, but very plethoric, much more of a fluid, extremely similar to milk, than blood, flowed out. The same fact was noticed by Murus to take place in those who were in the constant habit of riding on horseback. Nor are these singular occurrences, but to be met with throughout the writings of medical men. From all which circumstances, if I mistake not, it is evident that there exists in the blood and our other fluids, a matter which, when separated from its other parts, or deposited somewhere, may resemble the white and lacteal fluid, or appear like the milk. I should consider it as not being far from the truth to suppose, that the chyle itself here is worthy of the utmost consideration. It is often conspicuous in the blood drawn a few hours after eating, rendering the serum of a whitish colour. What if it should be excessive, or not intimately combined with the blood, or from any cause should be separated from the blood, and collect any where? Could it be derived from the blood? The fatty and adipose part of the chyle, mixed with the animal lymph, and deposited in the cells of the adipose membrane, according to Haller, (*Phys.* l. xxv. sect. 2. § viii.), forms the fat. Could the lacteal tumors, to which puerperal women are occasionally liable, be more properly derived from any other quarter than the milk? Haller (*Phys.* l. xxv. sect. 1. § xii.) has likewise sometimes observed the chyle flow back from the thoracic duct, in opposition to the valves, and spontaneously diffuse itself into the iliac and lumbar glands, and their vessels. It may be conjectured that that will happen much more readily, if any obstacle occurs, in consequence of which it is obliged to regurgitate and find out new passages. Therefore, since they contain a fluid similar to milk, we have a better reason for denominating *adipose*, or *chylous*, than *lacteal*, the tumors, congestions, and abscesses which in puerperal women often affect the cellular membrane, and conglobate glands, both internal and external.

465. It remains for us to discuss the two last arguments brought forward in the fifth and sixth places (461.). With

The two last arguments are examined.

respect, then, to what is affirmed of the lochia being in a great measure lacteal, if what has already been said against the existence of uterine lacteals, or the lacteal fluid flowing to the uterus, be kept in remembrance, it must immediately fall to the ground. It must next be observed, that the occasional whitish colour of the lochia * does not sufficiently demonstrate their lacteal nature. For they acquire that colour, either because the vessels, from whence the red blood flowed, now begin to contract, and only transmit the serous and lymphatic fluid; or, because they are discoloured with purulent matter, as is clearly shewn by the fetid smell they exhale. Moreover, if the lochia sometimes are not suppressed, unless when the fever is far advanced, or drawing to a close, it is not to be wondered at. For it does not necessarily follow, that every fever which attacks puerperal women proceeds from suppression, checking, or retention of the lochia, since there are various other causes from which it may be derived. It ought rather to create surprise, that, while the white, or, according to our adversaries, the lacteal, lochia are flowing, the fever, so far from ceasing, is immediately excited; that the uterus swells and becomes tense, from re-

taining the red part of the blood, and not evacuating it sufficiently ; as I have more than once remarked : while, on the other hand, according to them, nature would afford relief to puerperal women, by allowing the lacteal fluid to be discharged. On which account, when I observe the lochia in plethoric or sanguineous habits grow pale or whitish too soon, although they flow copiously, I consider their colour as suspicious, and not unfrequently as portending some bad consequence, if timely aid be not given. Moreover, with regard to the more copious secretion of milk, I am not surprised that, as it observes the order and intention of nature, and generally indicates the sound state of all the functions, it should also afford matter of congratulation to the physician ; and, on the other hand, that the want, or deficiency, of the milk, as it is a proof of the animal economy being in a state of derangement, should occasion much apprehension. But both may be said of the flow of the lochia. Their abundance generally gives security ; while a scanty discharge more certainly brings along with it danger and alarm.

* Women, and many medical men, as soon as they observe the lochia become pale or whitish, immediately say that the milk is turned to the uterus, and discharged from thence ; without paying attention to the time when this happens. But, in general, they begin to become pale, or whitish, as the milk-

fever is coming on, or after the milk has begun to be secreted in the breasts, or when the breasts are already distended with milk. Such a discolouration of the lochia cannot then be ascribed to the milk's being turned to the uterus. Nay, they more frequently and quickly become white in women who suckle, in whom it is not likely that the milk is carried to the uterus, as it is drawn off by the infant. For, did that white colour proceed from the milk being mixed with the lochia, it would certainly become much whiter in women who do not suckle, after the reflux of the milk from the breasts, and not in such as give milk; or, on the whole, in those in whom no such secretion has appeared; although in these last it might still be doubted, in fact, whether the discolouration of the lochia proceeded from the milk being mixed with them; because neither does milk exist in the blood under the form of milk, as has already been said, nor is the structure of the uterus in women calculated for such a secretion: for it is destitute of the glandular structure of the breasts to fit it for such a purpose. If neither secreted, nor in any way prepared, where can it exist, or from whence proceed? But it is urged by some, to prove that milk actually exists in the blood, and is poured with the lochia from the uterus, that the very sweat of puerperal women, and the lochia themselves, emit a peculiar acrid smell, such as proceeds from milk verging on acidity. Which is a very vague presumption indeed; for, even though in fact such a smell existed in the sweat and lochia, proceeding from no other cause, such as a portion of milk retained in the body-linen, which may have dropped from the breasts, and become acid by stagnation, it would not follow as a consequence, that it ought to be ascribed either to retention or reflux of the milk. For milk is not the only thing that becomes acid in our system. For the gelatinous part of the blood, as they call it, is apt to become acid, and therefore has a strong resemblance to the milk, (Senac, *Del cuore*, t. 3. l. 3. c. 4. p. 105. 106.). Animal soups, when kept long, acquire an acid taste, and exhale a fi-

milar smell. Animal jelly, also, while it is corrupting, is liable to the same thing. Veal broth and jelly, when left to themselves, acquire acidity, (*Mem. de l'acad. chirurg. t. 1. P. 2. p. 70. 12mo edit. Senac, Essays de Physiq. p. 552. Du coeur, t. 2. p. 98. Lorry, Des Alimens, t. 1. p. 353.*). Likewise the fat and oil of our bodies grow acid. The heart itself, because it frequently abounds with fat about its base, when too long kept has sometimes emitted an acid smell, (*id. ib. t. 2. p. 111.*). Nay, Haller informs us, that Navier discovered a subacid smell in putrid beef; he likewise informs us, that in the fluids of young animals manifest acidity is discoverable, which is still more evident in their fat. Hence animals grow acid before putrefaction takes place, (*Waller, Chem. p. 237.*). Quesnay discovered an acid disposition in pus, (*Oecon. anim. t. 1. p. 169. 195. 247.*), although Haller ascribes it almost all to the fat, (*l. c.*). The breath and sweat of children is acid, (*Pechlin. Observ. p. 332.*). An acid smell is perceptible in the sweat in certain malignant fevers, (*Morgag. De sed. et caus. t. 2. p. 262. Journ. de medicin. an. 1763. Aug. Fordyce, p. 24. 62.*); as also in the purple fever, (*Rosen. Sympt. purp. chronic. scorbut. p. 16. and Ludwig. Pathol. p. 64. 122.*); in the miliary fever, (*Hamilton, De prax. regul. et febr. miliar.*). ° An acid and critical sweat was observed in an anomalous fever, by Grainger, (*De febr. Batav. p. 33.*), and in a woman with *mollities ossium*, by Navier, (*Sur l'emollißem. des os, p. 62.*), and in a similar case Zeller remarked an acid vapour arise from the abdomen, (*De struct. gland. præt. nat.*). A similar acid smell, then, is found in other diseases unconnected with the presence of milk; why, therefore, may it not be the case in puerperal women? Why should it not be present in the lochia, which contain much serum and lymph, and are extremely prone to corruption?

466. These observations are designed in some measure to restrain within due bounds the hypothe-

tical opinions of the French on this subject, which appear to me to be too far pushed, and too generally diffused; but I would not wish to assert, that the milk is incapable of proving at all injurious. For, in consequence of being too long retained, becoming acid, or corrupted, or in any other way being rendered acrid, or being suddenly, and in great quantity, forced back, we have already shewn, that it is not harmless (463.); since, being thus mixed with the blood, or translated to the brain, lungs, and other viscera, or being somewhere deposited and collected in the cellular membrane, it may occasion not only fever, but likewise worse disorders, as already noticed (368.). Nor, while I differ in opinion with the French physicians, does the authority of the English induce me to entirely exclude from the number of causes, inducing puerperal fever, diminution, suppression, or retention of the lochia. For they do not appear to me to deserve being heard, when they authoritatively assert, that there is no difference between the fluid which is discharged from the uterus under the name of lochia, and the blood which is poured out by ruptured, lacerated, or otherwise wounded vessels; and that they are, moreover, both to be esteemed

The actual injuries proceeding from the milk.

The opinion of the English concerning the lochia.

equally bland and innocent. Nor can they be credited *, when they affirm, that they never saw any bad consequence arise from this uterine evacuation being diminished, retarded, or checked †. For the blood alone, though of good quality, which, as the uterus is contracted, ought to be gradually expressed, when retained has frequently been known to give rise to collections, pains, sometimes inflammations, and no small degree of fever ‡. But if the blood, which

Their opinion refuted.

is contained in the uterine vessels in considerable quantity, or, on the uterus becoming empty, has begun to flow into them, be suddenly repelled, and, in consequence of its sudden metastasis and rapid motion, assail any other weaker and more important function, as the brain or lungs ||, have we not reason to look for some of those bad consequences, which are the usual result of an unequal distribution, motion, and force of the blood? Is it not a very common occurrence in sudden suppression of the other hæmorrhages, especially the catamenia? What oppression at the breast, anxiety, and sense of suffocation, the patients experience! What affections of the head, cephalalgia, vertigo, and other distressing disorders!

* Especially Leake, l. c.

† A very complete dissertation on the metastasis of the lochia was published at Leyden, an. 1768, by Gerhard Fauvarcy. It is to be found in Baldinger's *Sylloge*, vol. ii. p. 278. The learned author, although he does not altogether deny the metastasis of the milk, thinks that many, nay all the disorders, which are ascribed by others to the milk alone, are very frequently to be attributed to aberration of the lochia. But as both kinds of metastasis are very nearly allied, he points out the marks by which they may be discriminated. He observes (§ v.), that the disorders, which occur during the first days after parturition, proceed from the lochia; while such as are subsequent to the *milk-fever* are to be ascribed to the milk. Next he adds, that during the metastasis of the milk, the breasts may become flaccid; but that during the aberration of the lochia they may be turgid; and quotes the authority of Van Swieten (*Com. in Boerh.* t. 4. p. 610. & 612.).

‡ Fauvarcy likewise apprehends the same bad consequences from abundance of good blood retained in the uterine vessels (l. c. § iv.).

|| Fauvarcy (*ibid.*) reasons in the same manner.

467. Sometimes the lochia differ so much from the condition of healthy blood, that they can by no means be compared to that which flows from ruptured vessels, as some would have it. It has already been shewn (365.), that they are occasionally purulent, or puriform. In that case no one can deny, that the retention or absorption of them would prove injurious. Sometimes, also, by stagnating in the cavity of the uterus, or vagina, and being cherished by the heat of the part, or

How the lochia
may prove hurt-
ful.

contaminated by the admission of air, they undergo such a change*, that, if they do not putrefy, they certainly become extremely predisposed to putrefaction. In consequence of which they exhale a very foul air, an acid or fetid smell, and, by their acrimony, in some degree inflame and corrode not only the parts through which they distil, but in a short time eat through the very linen employed about the patient. Could such a fluid be retained with safety, or conveyed through the system with the circulating mass? Add to this, that, not unfrequently after childbirth, vitiated and hurtful fluids, from every part of the body, flow to the uterus by a very wise provision of nature, that they may be excreted from thence by an effort of the system. If it happens by chance, or bad fortune, that this discharge is checked, every body must be aware of the bad consequences that must be the result.

* I have the support of the ingenious Fauvarcy's opinion, which he has delivered in the following terms, (§ 2.): "Although I assert, that blood flowing into the cavity of the uterus is healthy, I would not affirm this of the blood discharged from the vagina. For it is well known that the heat and humidity of those parts, and the stagnating in them, very readily and speedily induce putrefaction: hence the blood flows from the vagina in a state of complete corruption; not that it is poured into the uterus in that condition, but in consequence of acquiring such a taint by remaining in these parts. Add to this, that the remains of the placenta, amnium, chorium, and the downy substance that every where connects the chorium with the uterus, are cor-

rupted, fall off, and contaminate the blood in its passage in various ways." And he subjoins, that this takes place, *in particular, in the warm climate, where the Jews formerly lived.*

468. But such as ascribe puerperal fever neither to the milk, with the moderns, nor to repulsion, or metastasis, of the lochia, with some of the ancients, have recourse to inflammation of the uterus, which not unfrequently happens to puerperal

Whether inflammation of the uterus ever occasion it?

women, assigniug this as the most probable cause of such fevers. But Hulme and Leake consider the symptoms of inflammation of the uterus as being so foreign to puerperal fever, that they very confidently draw a wide distinction between them. They moreover assert, that in women who have died of the complaint, the uterus has been found in its natural condition, and without any mark of having been injured; while they have observed the omentum and small intestines inflamed and gangrenous, and the abdominal cavity full of putrid and corrupted fluids, and a remarkably fetid air. Whence they were both led to attribute this fever, not to inflammation of the uterus, but to that of the omentum and intestines.

But although they consider it as the offspring of inflammation, they do not exclude from it all putrefaction of the *primæ viæ*, or of the blood itself, at least that which is secondary and accessory.

Inflammation of the omentum & intestines alleged as its cause.

With respect, however, to the symptoms of the fever ; such different accounts are given by writers, that it is no easy matter to say what are peculiar to it, and what not *. Therefore, were I to adduce all the descriptions that have been given, we should find some that would force us to confess, that symptoms of inflammation of the uterus had been present in them. But even if the bodies of women who have died of puerperal fever be examined, it will appear much more evident ; nor will any doubt remain, that sometimes no distinction has been made between hysteritis and puerperal fever. For Le Roy himself confesses, that in the woman who died of this fever, and in whose abdomen he found a remarkable collection of serum, with white clouds resembling coagulated milk (461.), even the uterus, and neighbouring parts, were in a state of inflammation. We find in Pouteau's works † two dissections of women who had died of this fever, the inner membrane of whose uterus was black and soft, while there was a livid red colour, of a truly gangrenous appearance, underneath. Gastellier also dissected two women, who had died of puerperal fever, attended with an exanthematic eruption ‡, whose uterus exhibited the most evident marks of having been inflamed. To which facts, if we add the observations to be found throughout the *Miscellanea Na-*

turæ Curiosorum ||, no one can deny, that the uterus in this disease is frequently inflamed. But the account published by J. P. Xaverius Fauken § supersedes all that can be alleged on the subject. For he mentions, that the year 1770 proved fatal to almost all the puerperal women in Vienna, but chiefly to the patients in St Mark's hospital. Shortly after delivery their uterus became hard and swelled, with a sense of pain, the lochia being suppressed, the belly loose, accompanied with heat, thirst, moist skin, and headach. On the third or fourth day, the whole abdomen, particularly towards the region of the diaphragm, became swollen, tense, and painful, the breasts at the same time being flaccid, and containing no milk. On the sixth and seventh day these symptoms increased to such a degree, that they were carried off as it were in a state of suffocation. When the bodies were opened, a pseudo-membrane was discovered in the abdomen, consisting of a matter like curds or milk, with which all the viscera were covered. The whole of the cavity abounded, as it were, with the serum of milk; which was not wanting sometimes in the thorax itself. Not one viscus, but many were found to have been inflamed. In some, however, the uterus was so affected as to seem in a state of sphacelus. An account of a very similar epidemy, which, in the winter of 1746, proved exceedingly fatal to puerperal wo-

men, is extracted from the Commentaries of the Royal Academy of Sciences, by Van Swieten, in the following words : “ While they were in labour water flowed from them, and afterwards the uterus remaining dry, became hard and painful, nor did the lochia flow as usual. The disease began with loose belly, succeeded by pain in it, but particularly about the place occupied by the broad ligaments of the uterus ; the abdomen was tense, there was headach, and sometimes a cough. On the third or fourth day after delivery, the breasts, which usually then become distended, remained flaccid, and the patients died on the fifth or seventh. Poor people only were affected with this complaint, especially such as were delivered in the hospital. In the month of February the disease was so dangerous, that scarcely one of twenty escaped. In the dead bodies the coagulum of the milk (*using the language of the French*) was found adhering to the inner surface of the intestines, and the serum of the milk effused in the cavity of the abdomen ; a similar serum was likewise found in some patients in the cavity of the chest, and, on opening the lungs, they discharged a similar lacteal lymph, but putrid. The stomach, intestines, and uterus, when properly examined, appeared to have undergone inflammation, and grumous blood was discharged from the uterine vessels when opened :

in many, also, suppuration of the ovaria seemed to have taken place ¶." All which things, both with regard to the symptoms, and the appearance on dissection, agree so well with the descriptions of Hulme, Le Roy, and Leake, that nothing could be more similar, if we except the taint of the uterus, which they never discovered in their puerperal patients.

* White himself wonders that there are scarcely two authors who have described this fever in the same manner. Still he thinks that each of their descriptions have been taken from faithful observation, according to the appearances which the disease assumed: which I would wish the student to carefully keep in view, that the observations which I am about to make may not appear absurd or groundless.

† *Melang. de Chirurg.* p. 182.

‡ *De la fevr. miliar. des femm. en couche*, p. 108.

§ *Miscel. N. C.* Dec. 1. an. 2. obs. 85. an. 4. obs. 195. Dec. 2. an. 4. obs. 94. Dec. 3. an. 1. obs. 22. an. 3. obs. 123. White himself (l. c. p. 206.) does not deny, that in this fever the uterus is occasionally inflamed, and becomes gangrenous.

§ *Das in Wien. in Jahre, 1771, &c. vide Comm. Lipsiens.* vol. xix. p. 289.

¶ *Comm. in Boerb.* § 1329. p. 450. Geoffroy, in the year 1778, saw an epidemic puerperal fever in the *Hôtel Dieu* at Paris, and has given a short history of it, which is to be found in vol. ii. of the Works of the Royal Medical Society, p. 25.

469. What degree of credit is due to the dissections set on foot by Hulme and Leake to discover the proximate cause of these fevers, will appear from the circumstance, that of eleven puerperal women, whose history White has given, not one was bled, notwithstanding which they almost all recovered. Which would not have happened, if the inflammation said to have been discovered by the former writers in the omentum and intestines, had really been the *immediate*, or *conjunct*, cause of the disease. But that this may appear in a still clearer light, it will be proper to consult the learned observations of White * on the new doctrine of Hulme, from which it will be found that the effect had been rashly taken by him for the cause. For such an inflammation, had it been primary and not secondary, could never have been prevented or discussed without having immediate recourse to large bleeding. But White also has peculiar opinions, in which he differs from almost every other writer: for he supposes, that puerperal women fall into this fever, neither in consequence of the milk nor lochia being retained, nor from any inflammation of the viscera, but merely from their blood becoming contaminated with putrid effluvia. Again, he supposes, that these effluvia arise, partly from the lochia being retained in the vagina, or about the pudenda, and

Whether or not inflammation of the omentum & intestines be the cause of the fev.

readily corrupting, and partly from acrid and corrupted bile, or putrid fordes in the intestines; that they are absorbed by the inhaling veins, or into the interstices of the membranes, and mingled with the other fluids; while the blood becomes putrid the sooner, the greater the heat of the air, bed-chamber, bed, and drink, or the greater is the abuse of calefacient medicines and food, and the less attention is paid to the temperature and renewal of the air, or keeping the body clean †. Therefore, though in general after death the intestines are found inflamed, and externally covered with a kind of gluten, and immersed in purulent serum, he supposes that it approaches more nearly to the putrid and inflammatory kind. He likewise thinks, that the intestines, omentum, and other parts, which are generally found putrid in puerperal subjects, are more readily infected in consequence of their vicinity to the uterus, lochia, and excrements. And to render his opinion more probable, he employs not only many physical and physiological arguments, but attempts to strengthen it by the history of some successful cures, which he performed simply by the cooling regimen, and by means of acescent and antiseptic medicines. In England, where the abuse of spirituous liquors and the heating regimen is probably more general among puerperal women,

White's reasoning
refuted.

and cleanliness not sufficiently observed, and where they are commonly shut up in close ill-aired apartments, especially the poorer class of people, it is highly probable that they are attacked with acute and putrid fevers from this cause. But, since such a mode of life does not prevail universally, it would be altogether absurd to conclude, that puerperal women in a peculiar manner are attacked with this kind of fever. I myself have more than once observed women living in a very different manner attacked with these fevers in their full extent, and requiring a totally different plan of treatment for their recovery.

* L. c. *Post. script.* p. 337. et seq.

† L. c. sect. 3. art. 2. p. 209. et seq.

470. Besides, though I am very willing to allow, that the causes adduced by White possess a power of proving injurious, yet it does not appear to me that the body can be so quickly affected by them, that a bad kind of fever should be excited on the first or second day after delivery, as White, with Hulme, Leake, and others, allows frequently to happen ; unless some dyscrasy previously exist in the blood, or the body abound with a gastric or bilious coluvies, or the fluid be otherwise vitiated. And this seems to have occurred to Riverius, who,

Other objections.

though less acquainted with hypothetical and highly polished doctrines, in real medical information and experience, surpasses many of our modern writers. For, after enumerating the causes that give rise to putrid fevers in puerperal women *,

Riverius's opinion
of the causes of
this fever.

among which he comprehends suppression and diminution of the lochia, he proceeds as follows: "If, however, while the lochia are flowing properly, the fever arises, it proceeds either from a bilious collection of humours, or from errors in diet. Vitiated fluids, agitated by the labours and pains of parturition, are both very apt to become putrid, and to occasion fever †." Respecting errors in diet, as he makes some judicious remarks, it will be proper here to quote his own words: "Errors in diet may occur in various ways; and, first, in living, in which puerperal women generally observe a very improper regimen, stuffing themselves with various kinds of meat, which cannot be sufficiently digested, and become putrid within the body. Another error is committed by them, (*let this be remembered by such as recommend the cooling regimen too indiscriminately*), when they rashly expose themselves to the cold air, especially about the time the milk-fever appears, which is generally resolved by sweat. But the diaphoresis is checked by the incautious admission of cold air: whence the fe-

ver, which of itself would have been salutary, and lasted but a few days, is changed into a putrid one, attended with considerable danger." Nay, this fever sometimes comes on during the very time of parturition, or even one or two days before it, as appears from the histories of Hippocrates himself, not to mention others; from which we readily conclude, that this fever is not always to be derived either from the milk, or lochia, or from an improper mode of living.

* Let the putrid fevers here be taken in the sense of the followers of Galen, as already noticed.

† *Prax. Med.* l. xv. c. 24. § 6.

471. But besides the dyscrasy of the fluids, and a putrid, or bilious, colluvies in the *primæ viæ*, or sudden suppression of the sweat, or lochia, he mentions another pretty frequent cause of puerperal fever, namely, some portion of the *secundinæ* adhering to the uterus, or grumous blood, or some other foreign matter left in the cavity of the uterus after birth, becoming putrid, occasioning the *green colour, and fetid and cadaverous smell of the lochia*. For, from these causes, not only does the uterus become putrid, but likewise the whole body is infected with putrid ichors and baneful effluvia, from whence the most putrid fevers arise. And, in support of each cause,

he adduces two cases exactly in point, taken from Harvey's Treatise on Child-birth. Nor is Riverius the only person who has written to this effect. Similar, or the very same, observations are made by Willis*. For, enumerating the causes of these fevers, he first assumes a "bad diathesis of the blood," contracted during gestation; in the second place, "morbid affections of the uterus," the consequences of parturition. By the former, if it be not removed by a copious and continued flow of the lochia, he says, that the blood is rendered extremely apt, on the most trifling occasion, to effervesce and putrify, nay, that the nervous fluid becomes thoroughly vitiated, and, as it were, poisoned. But that, "in consequence of the latter, the lochia are suppressed, and the purifying of the whole blood impeded, by which the *fetid ichors are blended with, and infect the blood;*" nay, "that convulsive motions beginning about the uterus, and propagated to other parts, occasion derangements in the blood and other fluids, which frequently conspire in producing, or aggravating, the fever. At the same time he does not omit "two other causes depending on the will of the patients, which can easily be avoided by them, and frequently give rise to this fever, namely, improper living, and exposure to cold." For, from full living, and dealing in soups too

Willis accedes
to the opinion of
Riverius.

early, he observes, “arises congestion, and great uneasiness in the viscera, and in the blood febrile turgescence on account of too rich food being employed.” But by catching cold, “in consequence of putting on their cloaths, and getting out of bed, one or two days after delivery, or sooner than what is proper, not only is the perspiration checked, but not unfrequently the lochia are suddenly stopped, from the air getting access to the uterus.” Either of which will be sufficient to excite fever.

* *De febr. c. xvi. p. 77.*

472. From all this variety of opinion it will readily be perceived, that probably there is no single cause of puerperal fever, but perhaps several; and consequently that several kinds of this fever occur, to which the name of puerperal applies, or has been given. And although the observations, quoted in the last place from Riverius and Willis, carry a great shew of truth, in an affair which is so much controverted, it is the part of a judicious practitioner to suspend his decision, and to determine on nothing, until what appear to be the dictates of reason shall be confirmed by the test of experience. Therefore, to ascertain what are the principal causes, and what real distinctions are to be derived from these causes,—

which it is a matter of very great moment to know ;—nothing appears more likely to assist us than examining a few of the histories of the fevers called puerperal, that we may thus by probable reasoning, *a posteriori*, draw our determination in the matter at issue. I

shall, therefore, first slightly touch upon those which Willis has left

Willis's observations.

us, and next give some others a cursory examination, in as far as they concern the subject, briefly collecting the consequences which seem to flow necessarily from them. He has given an account of seven puerperal women, labouring under fever, four of whom sunk under the violence of the disease, and two survived. I shall omit the seventh, because, as she had only small-pox, her case does not properly apply to the present investigation. The first of these patients was attacked with fever from various causes ; for she had both had a difficult labour,

First History.

on the second day after delivery ate plentifully of animal food, and on the third remained out of bed for four hours. On the following night she was taken ill, at which time the milk flowed to the breasts, but immediately disappeared on the application of a diachylon plaster. In the morning of the fourth day she was feverish, and manifested symptoms of dyspepsia.

On the fifth day there was more fever, and the same uneasy symptoms at the stomach. The lochia were diminished, and became white, or run into the *fluor albus*. Towards evening the head was affected. The hypochondres and epigastrium became tense. On the sixth day the tongue was affected with paralysis. On the seventh oppression at the chest, and loss of sense supervened; and on the eighth death, from a metastasis, as appears, having taken place to the brain. From this short description we infer, that the fever had a manifold origin, namely, a coluvies in the *primæ viæ*, repulsion of the milk, and diminution of the lochia. The fever, therefore, was at first a gastric one, afterwards aggravated by the milk's being repelled, and the lochia diminished. The fever described

Second history.

in the second place proceeded from bad-conditioned fluids, in consequence of bad living and an indolent life *. It did not appear until the third day, and was shortly after followed by a diarrhœa. To stop the diarrhœa, astringents were employed on the sixth day, which prematurely suppressed the looseness and flow of the lochia. In consequence of which the fever was aggravated with great and frequent oppression at the chest, and a hysterical affection, attended with a sense of suffocation at the throat. On the seventh day all the symptoms were ag-

gravated, although the looseness had returned, and the lochia had again begun to flow sparingly. At length came on tinnitus aurium, a sense of turgescence in the head, subsultus tendinum, sudden convulsive shocks of the whole system, and on the ninth day death. The metastasis took place first to the præcordia, and next to the head. The fever was a *gastrico-putrida*, which proved fatal in consequence of suppression of the diarrhoea and lochia. The third was a fever, which, without being attended with any morbid combination of symptoms, attacked the patient in the evening of

Third history.

the fourth day, after she had ate too plentifully of chicken, and was accompanied with vomiting and a cessation of the lochia. On the fifth day looseness came on, and the lochia again began to flow copiously, so that the patient completely recovered in a few days. This is nothing more than a case of pure gastric and benign fever, from the premature use of animal food. The history of the fourth patient is as follows: From the day of delivery

Fourth history.

to the seventh, the patient always used flesh, and got out of bed daily; but on the seventh was attacked with fever. In consequence of which the lochia were diminished. On the night of the tenth day, delirium, suppression of the lochia, and convulsions occurred. She died

next day, after a spontaneous looseness had come on. In this case the fever, which was at first slight, with a small pulse, like the malignant ones, was occasioned by too plentiful food, exposure to cold, and consequent checking of the perspiration. Suppression of the lochia coming on caused it to prove fatal. Would it have been proper to name it *gastrico-lochial* fever? The

Fifth history. fifth woman was seized with fever

in consequence of the lochia and diarrhœa being suppressed by the improper employment of astringents; but on each evacuation being recalled the fever shortly ceased. It was, therefore, a *gastrico-lochial* fever of the benign kind. But the history of the sixth patient must be narrated at somewhat greater length. The

Sixth history. patient, on the second day after delivery, by standing up in bed, admitted

the cold air to the *pudenda*. In consequence of this, such a total suppression of the lochia occurred, that scarce any serous fluid continued to trickle from the uterus. On the third day came on the fever and a pleuritic pain, accompanied with a spitting of blood. On the fourth day all the symptoms of actual pleurisy appeared. Then six ounces of blood were taken from the arm with alleviation of the symptoms, which lasted for ten hours. At night, however, there was a return of the pleuritic pain. In the morning of the fifth day four ounces were again taken, in consequence of

which the pain was diminished, and the respiration rendered easier. Sweat was brought out by means of diaphoretics. She enjoyed sleep, but after it the pulse was found quicker and more languid. Starting of the tendons and delirium supervened. On the fifth day death took place, twenty-four hours after repeating the bleeding. It is somewhat doubtful, whether the pleurisy simply ending in gangrene occasioned the death, or whether some metastasis to the brain co-operated in producing it. This, at any rate, is undoubted, that the disease was pleurisy, arising from suppression and aberration of the lochia; and that, on account of the vitiation of the fluid, or bleeding being too long delayed, it quickly terminated in gangrene.

* Likewise Raym. Jo. Fortis describes a puerperal fever arising from a morbid condition of the fluids, contracted during parturition, and, as usual, delivers a learned commentary on it. His words are: "A woman of thirty, of a warm liver and slender habit, and rather with bad-conditioned humours, having used fruits and other eatables with bad juices, during the whole period of her gestation, at length bore a female child; and, notwithstanding her having undergone the usual evacuations, on the third day was attacked with an acute fever, accompanied with pains of the hypochondres and head, watching, and troublesome cough. Though the midwife at first considered it as the milk-fever,—when the seventh day after delivery had passed, on which the fever was so much aggravated with shaking, that next morning the patient became delirious,—after the lochia were diminished, changing her opinion, she

believed that it might proceed from some other cause. And, therefore," &c. In the epicrasis he observes: "It, therefore, must be considered as putrid, and not derived from retention of the lochia, but rather from a morbid condition and crudeness of the fluids, rendered bilious, foreign to the healthy state of the blood, and become putrid in the venous system," &c. The wife of Epicrates, mentioned by Hippocrates, seems to have fallen into a fever from a similar preceding cause; for, as her time was approaching, two days before delivery, she was seized with violent rigor, on the third she was delivered of a daughter, and every thing went on properly; but on the second day after delivery a violent fever, attended with pain at the cardia and pudenda, came on: *Epid. i. sect. 3. agrot. v.* And perhaps the same cause gave origin to the fever which seized the wife of Dromedas on the second day after being delivered of a daughter, and all the evacuations had gone on properly: *Epid. lib. i. sect. 3. agrot. xi.*

473. From the observations of Willis, I now pass on to those of White, subjoined to the end of his work. A good number are there to be found, but only nine of them belong properly to the puerperal fever; for the first, tenth, twelfth, and the others, are applicable to other diseases. I therefore pass over these as foreign to our purpose; I shall set out with the second one, epitomising it in such a manner as to omit nothing that can tend to elucidate the origin and nature of the disease, observing exactly the same rule with regard to those that follow. *Observ. ii.* A woman, after experiencing an easy and natural

Observations of
White.

First Observ.

labour, and employing a too heating regimen, without renewing the air of the bed-chamber, in consequence of which repeated sweats had broke out, was attacked with a diarrhœa accompanied with gripes, and symptoms of acidity in the stomach ; and that happened on the fifth day after delivery. On the same day the fever occurred, the lochia were copious, but very fetid, and the tongue white. The fever, diarrhœa, and tormina, were of long continuance. A very fetid smell was emitted from every part. She was cured by the cooling regimen, by frequently renewing the air of the bed-chamber, by ipecacuanha, and, lastly, by the use of the Peruvian bark. Its cause was indigestion, with a putrid dissolution of the blood. Why should not the fever arising from thence be named *gastrico-colliquans*, or *gastrico-putrida* ? *Observ. iii.* The chamber in this case was too close and warm ; the lochia were fetid. On the fifth day there were violent pains at the lower part of the belly. There was a swelling, inflation, tension, and increased sensibility of the abdomen ; a frequent desire to go to stool ; very uneasy tenesmus, and little passed ; frequent pulse ; white tongue ; and, lastly, desire for food, vomiting, and looseness. On the sixth day the lochia were suppressed, and the milk diminished. On the eighth the secretion of milk and the lochia re-

Second observ.

turned, and the fever ceased. The cause of the complaint, and the complaint itself, were the same as the preceding. *Observ. iv.*

Third observ.

Cold was caught during parturition. Towards the evening of the second day fever and griping came on. On the third day the symptoms were, shivering, heat, and indurated fæces. On the fifth day more violent shivering; looseness with gripes; acrid, warm, burning excrements. On the sixth the excretion of fæces was more copious; the lochia were pale, and the mammæ flaccid; though the milk did not altogether disappear. On the seventh the diarrhœa was the same, but the fever less violent. On the eighth the stools were less frequent and more sparing. Hence the milk in the breasts became more abundant. On the ninth the fever terminated. It appears that the fever arose from checked perspiration and a slight bilious colluvies in the *primæ viæ*. It was, therefore, a *pure gastric fever*. *Observ. v.* sets forth the

Fourth observ.

history of a miliary fever, or of a disease arising from the miliary miasma combined with indigestion in the stomach, which did not attack the patient, who was a young woman, after delivery, but in the sixth month of gestation, in consequence of which she experienced an abortion. *Observ. vi.* shews what may be

done by the cooling regimen, abstinence from animal food, and the use of acescent fruits. For by these acids the

Fifth observ.

bilious ardent fever, which threatened, was powerfully kept off. *Observ. vii.* On the

Sixth observ.

first day after delivery, about the evening, there was shivering, which also returned next day. On the third there was great vomiting and diarrhoea, with pain in the head, loins, and hip-joint, and such tension at the lower part of the belly, that the patient could not suffer it to be touched for pain. On the fourth day came on thirst and heat. The pulse was quick, the tongue white, the milk scanty, and the lochia suppressed. On the sixth day, merely in consequence of the cooling regimen, the admission of pure air, and avoiding animal broths, the fever with all its symptoms disappeared. Thus the fever, occasioned by the putrid gastric colluvies, was checked almost at its commencement. *Ob-*

serv. viii. A great hemorrhage of the uterus, in consequence of the

Seventh observ.

placenta being retained. Five hours after it was extracted by the surgeon, which immediately put a stop to the hemorrhage. On the third day there was first shivering, next heat, and lastly sweating. On the seventh there was a similar accession, which observed the same order. On the

ninth frequent vomiting; nausea; thirst; desire for food; small, very quick pulse; the tongue white at the sides, brown and dry in the middle. The patient gave suck. Her abdomen was so painful as not to allow of its being touched. The lochia flowed in sufficient abundance, but had a putrid, fetid smell. During this whole time she had had no passage in her belly. The constant heat of the bed, and employment of warm drink, had rendered her not only more costive, but had made the fæces more prone to putrefaction, particularly as this woman lived in the country in a damp situation, and in an old house. She was cured by means of emetics and laxatives. No metastasis of the milk could be blamed in this case; for she suckled her infant. Nor could retention of the lochia, for they flowed tolerably abundantly. The cause, therefore, of the complaint, was rather too great a quantity of the fæces in the intestinal canal, and a putrid vitiation of the chyle. May there not likewise have been something corrupted in the uterus? The too long retention of the placenta in the uterus, and the subsequent fetor of the lochia, give no small grounds for suspicion. Of the same kind is the ninth

Eighth observ. *Observation*, in which the same mode of treatment overcame the complaint.

Observ. xi. In consequence of the placenta being three days retained in the uterus, and becoming putrid there, a very putrid fever, accompanied with miliary pustules, arose, which proved fatal on the twenty-second day after delivery. Ninth observ.

474. These observations might answer the purpose, if it did not frequently happen, that the miliary eruption is joined with the puerperal fever, though per epigenesin, in such a manner that the fever is then named the *miliary fever of puerperal women*. I shall not, therefore, consider the time as thrown away, if I subjoin to those already quoted, seven other histories lately published by Gastellier, that I may be the better enabled to investigate the various origins and nature of this fever. *Observ. i.* A woman had a favourable delivery in the morning. In the evening the lochia were suppressed, in consequence of a fright she suddenly received. Gastellier's observations.

Thence followed shaking of the whole body, a sense of suffocation and straitening of the chest. At night she was very talkative; her conversation was incoherent, there was a pain in the head and loins; the respiration laborious; the eyes were red and sparkling; the pulse hard, full, and quick; violent throbbing of the carotids; the First patient.

skin dry, and marked with broad red spots ; and intolerable thirst. All which symptoms ought to have been ascribed, partly to the terror, partly to the heating remedies and wine employed to remove its effects. To these symptoms were added, violent delirium, and, shortly after, the miliary eruption. Repeated bleeding proved serviceable, in so much that on the ninth day the lochia flowing copiously, and her senses being restored, she was able to sit up for three hours out of bed. It cannot be doubted that this kind of fever was to be ascribed to suppression of the lochia, and to the too violent and copious afflux of the blood to the head ; and the name of *lochial phrenitis* might perhaps not improperly be given it.

475. *Observ. ii.* After an easy and natural delivery, the lochia flowed very sparingly. The

Second patient. patient, therefore, continued in indifferent health for fourteen days * ;

nay, on the night of this day, without any evident cause, she was seized with very acute pains at the lower part of the belly, attended with frequent and very violent vomiting. Next morning she complained loudly, and shrieked with pain. Her pulse was small, slow, and very contracted ; the extremities were cold ; the urine suppressed ; the belly swelled, but not painful to the touch ; great dyspnoea, and at length the whole body co-

vered with miliary vesicles, which had broken out a few days before. No milk appeared from the time of delivery to the present day, nor had any milk-fever preceded. In consequence of bleeding in the foot being twice employed, together with diluent subacid drink, frequently bathing the whole body for a long time with tepid water, and next purging it copiously by tartar-emetic, and bringing about a free discharge of the lochia, the patient quickly recovered. The author has given it the name of *colica nephritica*. Yet it seems more probable that the cause was, scantiness and aberration of the lochia, and fordes in the intestinal canal.

* Hippocrates (*Epid.* 1. *sect.* 3. *agrot.* iv.) gives, as usual, a laconic, but exceedingly accurate history, of a puerperal woman, who was attacked with fever on the fourteenth day after delivery. The whole of which it will be worth while to transcribe, as it bears a considerable resemblance to that we have been just describing: "In Thafus, the wife of Philinus, who had been brought to bed of a girl, after the usual evacuations, and otherwise doing well, was attacked on the fourteenth day with a violent fever, attended with delirium. At first she had a pain in her heart, (*meaning the pit of the stomach*), and about the right præcordium; together with pains in the parts of generation, and the lochia ceased. But, on applying a pessary, these symptoms were relieved. Still the pain of the head, neck, and loins remained. She enjoyed no sleep. The extremities were cold. She was thirsty; her belly hot, and she passed little. Her urine was thin, and from the beginning colourless. In the evening of the sixth day, she became very delirious. On the seventh she was thirsty, and discharged bilious, high-coloured matter. On the eighth she had rigor; acute fever; convulsions and pain; and was

extremely delirious. A pessary having been applied, she arose, and discharged much bilious matter by stool. Still there was no sleep. On the ninth she was attacked with convulsions. On the tenth she in some degree recovered her senses. On the eleventh she slept, and recollected every thing; but immediately relapsed into the delirium. During the convulsions she passed a quantity of urine; while they were not present, it was thick and white, like that which is become turbid by stagnation. It deposited no sediment, and in colour and thickness it was like that of cattle. Such was the state of the urine, as I myself saw. About the fourteenth she had universal subfultus tendinum; she spoke much incoherently; she recovered her senses a little, but quickly became delirious again. About the seventeenth she lost her speech. On the twentieth she died." Mercurialis, in his commentary on this history, supposes that the lochia begun to flow, as usual, immediately after delivery, but that the discharge afterwards became too sparing; and that, in consequence of this defective flow, she was at length attacked with fever, which might be occasioned by inflammation of the uterus and liver, proceeding from retention and aberration of the lochia. He gave it the name of *hemitritæa*. But there was also a collection of bilious humours, from which the fever might in a great measure be derived.

476. *Observ. iii.* During the whole period of gestation the health was bad, the living bad, and there was a slight fever of long standing. After delivery the lochia were first copious, next scanty, and came off slowly. There was scarcely any milk, although the child was put to the breast. The patient generally sat up out of bed, so that she certainly received no injury from the heat of the bed or chamber. On the tenth day she exposed herself to damp air, though for a short time. Next night she was attacked with violent fever; in consequence of

Third patient.

which the lochia, which still continued to flow, were entirely suppressed. On the following day all the symptoms were aggravated: the pulse was small, hard, quick, smooth, and compressed; the skin was of a burning heat, although bedewed with constant moisture, and covered with small clear vesicles. The head lay to one side; the eyes were languid; the tongue dry; the breasts flaccid; the respiration anxious; slight delirium; difficulty of speaking; there was oppression at the chest; the arms were thrown out carelessly, and she caught the bed-cloaths in her hands. In the mean time the abdomen was soft, and without pain. The breast and head were remarkably relieved by bleeding from the foot, by which also the pulse was raised. The remainder of the cure was performed by purging, by which much bilious and putrid matter was drawn off; by copious sweating, and the flow of the lochia, which shortly returned. Thus, within a few days, she perfectly recovered, except that the secretion of milk could not be restored by any means. The body long abounded with vitiated humours *, and was not sufficiently purged by the quantity of the lochia, or by the diarrhoea, or sweat, after delivery. To which was super-added checking of the insensible perspiration, by exposure to moist cold air, by which the fever

The cause of the fever, vitiation of the fluids, & retention of the lochia.

was immediately excited. Nor, for my part, do I see reason for having recourse to doubtful or uncertain causes.

* In Hippocrates (*Epid.* 3. *sect.* 3. *agrot.* 2.) is to be found the history of a puerperal woman, who, during gestation, was “feverish,” and, after delivery, “the lochia not having taken place, on the third day was attacked with an acute fever, attended with shivering.” The causes were almost the same as in that just now described, but more severe and dangerous, in so much that she not only long struggled with “continued, acute fevers,” attended with very bad symptoms; but, after a variety of changes for the better and worse, at length sunk under the complaint on the eightieth day from its commencement.

477. *Observ.* iv. On the sixth day after parturition the following particulars were to be observed. The pulse was full, hard, frequent, and irregular; the tongue rough and dry; the skin moist, covered all over with white miliary pustules; there was some anxiety about the chest; the abdomen was unusually distended, and extremely painful to the touch; the urine sparing and red; the belly bound; great thirst; frequent shiverings and fits especially after the invasion of the milk-fever. The lochia were first sparingly discharged, and afterwards entirely ceased to flow. The head, however, remained free from any affection. There was a scanty secretion of milk in the breasts. In consequence of these symptoms, the

physician being called, he conjectured that the principal part of the disease was inflammation of the uterus. He therefore caused the patient to be bled in the arm twice within a few hours, and prescribed whey by way of drink. This caused a very speedy detumescence of the abdomen; the belly became loose, and much bilious matter came off; the lochia again flowed with great abundance, and every thing returned in three or four days to the former healthy condition. I shall not here enter upon the discussion of the question, whether the uterus alone, or the intestines also, might be suspected to be inflamed; nor whether the fæces contributed at all to the stopping of the lochia and inducing of the fever, or were at least combined with it. This alone I considered as manifest, that this fever originated from suppression of the lochia and the bound state of the belly.

The fever derived from bound belly, and suppression of the lochia.

478. *Observ. v.* In this case the lochia were too speedily diminished. The milk-fever was exceedingly violent. The night between the third and fourth day after delivery was spent without sleep, with the greatest anxiety and delirium. In the morning of the fourth day all the symptoms were somewhat alleviated; but in the evening they were greatly aggravated. The patient then complained much

Fifth patient.

of a lancinating and very acute pain in the head ; the eyes rolled about in the head, and glistened ; the patient laughed without any cause ; the tongue was dry and black ; the thirst was unquenchable ; a sense of suffocation was felt in the chest ; the respiration was much oppressed ; the breasts empty and flaccid ; no flow of the lochia ; the belly soft ; the skin moist, with white miliary pustules appearing here and there ; the pulse very full, intermitting, and very fast ; and, occasionally, alienation of mind. Bleeding, which seemed highly necessary, was omitted ; consequently all the symptoms were aggravated. About the eighth day a metastasis to the brain having taken place, she expired.

Phrenitis from
metastasis of the
lochia.

479. *Observ. vi.* The labour-pains continued two days, and the child was extracted by means of the forceps. Fever came on during parturition. Six hours afterwards the lochia altogether ceased. During the time of the milk-fever all the symptoms were aggravated. There was a most severe headach, with a hard, quick, contracted pulse ; the belly and loins were affected with an excruciating pain. The face was livid, and the respiration frequently interrupted with anxiety about the præcordia. There was a burning heat in the skin, the belly was swelled, and impatient of being touched. The

Sixth patient.

uterus being much enlarged, occupied more space than in the gravid state. The limbs were feeble, and nothing was passed by the belly. On investigation it appeared, that the patient had been much injured by an ignorant nurse, and had drunk wine too freely on purpose to promote the flow of the lochia. The patient was relieved, first by the antiphlogistic regimen and repeated bleedings, and afterwards the colluvies in the intestines, which had taken place in the course of the complaint, was removed, and thus the miliary eruption disappeared. The complaint, as the author supposed, was confined chiefly to the uterus, which had been much distended and harassed, both during gestation, but much more so in parturition. In consequence of which it became inflamed, but it was combined with a putrid diathesis, both of the *primæ viæ* and of all the fluids. Retention of the lochia, bound belly, and corruption of the fluids, afforded the primary causes, by which an anomalous and lasting fever was excited, which did not entirely disappear for forty days *.

Inflammation of the uterus, combined with dyspepsy and a putrid diathesis.

* It is well worth while to insert in this place two histories of women, who were attacked with a very violent and fatal fever, after a hard labour: one of them is to be found in *epid.* 3. *sect.* 2. the other in *sect.* 3. of Hippocrates. The first is as follows: "A woman, who had been for the first time brought to

bed of a boy in the Forum Mendacium, and had had a severe labour, fell into a fever. From the very beginning she was thirsty, anxious, had a pain in her heart, her tongue dry, her stools thin and scanty, and she did not sleep. On the second day she had some rigor, acute fever, and her head was bedewed with a cold sweat. On the third day she with difficulty passed crude, thin, and copious dejections. On the fourth day she had rigor. All the symptoms were aggravated. She slept none. On the fifth and sixth she continued much distressed. On the seventh she had rigors, acute fevers, much thirst, and restlessness. Towards evening she was all over covered with a cold sweat, she felt herself cold, and her extremities no longer recovered their heat. At night the rigor again came on. She did not sleep; there was a slight derangement of the mental function, though she shortly recovered the use of her understanding. On the eighth day about noon she turned warm again; she was thirsty, sleepy, and felt herself sick. She vomited some yellowish, bilious matter. She was restless at night, and slept none. She passed a great deal of urine involuntarily. On the ninth day all the symptoms remitted, and she remained sleepy. Towards evening the rigor in some degree returned. She again vomited bilious matter. On the tenth there was rigor, and the fever was aggravated. She enjoyed no sleep. In the morning she passed a great deal of urine, which deposited a sediment, and her extremities recovered their warmth. On the eleventh she vomited greenish, bilious stuff. Not long after she had rigors, and the extremities again grew cold. Towards evening she had sweats and rigor. She vomited a great deal, and passed a restless night. On the twelfth she vomited much black, strong smelling stuff; had much hiccup and troublesome thirst. On the thirteenth she vomited a great deal of black, fetid matter, and had rigors. About midnight she became speechless. On the fourteenth a hæmorrhage from the nose took place. She died. Her belly had been all along loose, and matter of a most disagreeable smell passed. She was about seventeen years of age." Galen

has made no commentary of any consequence on this history; he has not even left a syllable in writing on the causes, nature, and name of this very pernicious species of fever. He seems, however, to have classed it among the ardent fevers. Mercurialis, again, in his commentary, employs only conjectures, and is much inclined to suspect, that it is to be derived from a metastasis of the lochia to the stomach and intestines; that it occasioned a colliquative diarrhoea, and was of the same kind as the *horrifica* and *hemitritæa* of Galen. Be that as it may, it is probable that it was occasioned not only by retention and aberration of the lochia, but likewise by a collection of bilious humours, and that it approached very nearly to the tritæophyæ of the ardent, malignant, colliquative, putrid kind, terminating in lipyria. Perhaps also the uterus, in consequence of the hard labour, became inflamed. The other history is given in the following words: “In the island of Cyzicus, a woman, after a hard labour, bore female twins. The lochia did not flow very copiously. At first she was attacked with an acute fever: there was heaviness of the head and neck; she was wakeful from the beginning: but she was silent, sad, and obstinate. Her urine was thin and colourless. She was thirsty, and had much anxiety. Her bowels were greatly disordered, and afterwards returned to the natural state. On the sixth day, towards night, she raved much, and enjoyed no sleep. About the eleventh she became furious; but afterwards recovered her reason. Her urine was black and thin, and afterwards scanty and oily. Her stools were copious and loose. On the fourteenth she had many convulsions, and her extremities were cold. She no longer remained sensible, and her urine was suppressed. On the sixteenth she was speechless. On the seventeenth she expired in a state of phrenzy.” Galen and Mercurialis, in their exposition of this history, derive it not only from deficiency of the lochia, and inflammation of the uterus succeeding the difficult birth, but also a metastasis of vitiated humours to the head; from which the phrenitis proceeded. Hippocrates called it *actual phrenitis*.

480. *Observ. vii.* In this patient, during the whole period of gestation, fixed sorrow and bad living had proved injurious. Hence
 Seventh patient. arose a slight fever, which continued to trouble her for two months. At length she had an easy labour. The lochial discharge and secretion of milk were natural; and they continued so to the eighth day, while she at the same time observed a proper regimen. At this time she received a severe shock from seeing her child fall into convulsions. The lochia immediately ceased to flow. In the evening the fever came on, accompanied with headach, thirst, and heat; in the morning it was slightly mitigated, but aggravated towards evening. The bitter taste in the mouth, foulness of the tongue, the preceding depression of spirits, and bad living she had used, indicated a bad state of the digestion. Miliary pustules, without doubt occasioned by a vitiated state both of the fluids contained in the veins and the *primæ viæ*, next supervened. She was cured by means of cathartics, which occasioned a discharge of bilious, viscid, putrid matter, and were followed by a speedy termination of the fever and all its symptoms. Probably they supplied the place of the lochia, which could not be brought back by any means. Therefore
 the fever was excited by a gastric colluvies, and sudden suppression of the lochia. Hence, being in some

The fever a gastrico-lochial one.

measure of a mixed nature, it might not improperly be denominated *gastrico-lochial*.

481. If any one impartially considers these observations, and attends to the manifest causes which involve puerperal women in so many fevers and complaints, he will be obliged to confess, unless he be mad, that the chief and most frequent of them are not single, but various, namely, sometimes retention, suppression, or corruption and aberration of the lochia ; sometimes the placenta, or the remains of the *secundinae*, left in the uterus, and putrefying there ; sometimes preceding vitiation of the fluids ; sometimes putrid, or bilious, or otherwise depraved chyle in the *primæ viæ*, or too long retention of the fæces ; sometimes alkalescence, or putrid colliquation of the blood, whether occasioned by the heating regimen, or by excessive heat of the bed, or chamber, or by impure air, or that which is charged with any putrid miasma ; sometimes difficult labour, and injury done to the uterus ; sometimes also, but rarely, sudden retiring and metastasis of the milk, or its having become corrupted or acid by stagnation, or several of these causes put together, as more frequently happens. But, according to the variety and noxious power of these causes, various kinds of these fevers and diseases must necessarily follow, namely, sometimes hysteritis, ente-

Several manifest causes.

Puerperal fevers according to the variety of causes.

ritis, pleurisy, peripneumony, and phrenitis; sometimes *acute gastric fevers*; sometimes *gastrico-putrid*, or *gastrico-lochial*, or simply *lochial* ones; sometimes *ardent bilious tritæophyæ*, or *colliquative*, or *bilious* ones: and of these, again, some *benign* and *pure*; others *malignant*, *pernicious*, and *complicated*, resembling the nature of the *hemitritæus*. Of all of them, however, no one can deny, that those which occur the most frequently are the simple *gastric* and *lochial* fevers, or such as are combined with these, as the *gastrico-lochial* ones; and the *gastrico-putrid*, or *gastrico-inflammatory* kind

482. It consequently follows, that it is a very great mistake to suppose, that either retention, or repulsion, or aberration of the
Riverius and Willis's opinion just. lochia, or inflammation of the uterus, or any other cause in particular, produces puerperal fever; and that they are the most judicious who, with Riverius and Willis, have concluded that there is sometimes one, sometimes another cause, and therefore that its origin is manifold. Whence it happens, that not only the prognosis, but likewise the cure itself, ought to vary according as the nature or combination of the causes varies, which does not seem to have been sufficiently noticed by
The modern opinion erroneous. modern writers. For, according as they have preconceived an erro-

neous opinion, or have only observed some epidemic, in which puerperal women have been affected with nearly the same disease every where, but particularly in hospitals with bad air, they have persuaded themselves that puerperal women are liable to this or that kind of fever, and each has given his own description of the complaint as more consistent with nature and truth than those of others: from which we learn the reason of White complaining, that scarcely two authors are to be found who agree in their description of this fever; although he allows, that each of them has given a faithful account of the fever which had happened to occur to him in the course of his practice.

483. The remarks already delivered, and the deductions drawn *a posteriori* from the successive observations of others, might be quite sufficient to ascertain both the causes and nature of these fevers, and to establish a proper plan of cure in them, so that it would be almost unnecessary to waste time in any farther investigation or description of them. But since some modern writers, as Hulme, Leake, White, and others, hold puerperal fever to be a disease peculiar to puerperal women, and entirely different from all other diseases to which they are subject, I shall not omit its description, as I have already promised (459.), such as they have seen

The disease peculiar to puerperal women.

it either in lying-in hospitals, or here and there epidemically affecting puerperal women *, that those who are desirous of clinical information may consider nothing as wanting in the account. And I shall endeavour to give a comprehensive view of what they have delivered concerning the causes, prognosis, and method of cure.

* Leake, who published his treatise first in the year 1772, and afterwards republished it in 1774, observed this fever raging in the Westminster hospital, and also diffused epidemically over the town, particularly in the month of May 1769, as also in 1770, and 1771. Likewise Hulme and White observed a similar malignant epidemy. Johnson also (*Art. Obstetric.* 253.) knew that this fever raged particularly in lying-in hospitals, and was found more frequently there, because the air in them used to be more or less contaminated with the putrid effluvia proceeding from the patients bodies, and adhering to the beds, cloaths, and walls of the apartments.

THE DESCRIPTION OF THE FEVER FROM THE MODERNS.

484. In the evening of the second or third day after delivery, the patients are generally of a sudden affected with violent sh-

The time & manner of its attack.

king, which is of long continuance.

It happens sometimes sooner, sometimes later, seldom however so late as the fifth or sixth day *. It is accompanied with headach, anxiety, nausea, vomiting of bile, and prostration of strength †. The shaking, as we are in-

formed by White ‡, sometimes returns like that in intermitting fevers, but of the erratic or irregular kind, until the fever shortly terminates in a continued quotidian, or tertian, either of the simple or double kind. He tells us,

also, that in some the fever is not <sup>Nausea, vomiting,
and looseness.</sup>

preceded by shivering, but comes on and proceeds to its acme gradually, shortly manifesting itself by putrid sweats, the dangerous nature of which we are led to suspect from the nausea, green vomiting, and diarrhoea which are present. But the shivering is succeeded by excessive heat ||. Leake remarked very great variety in the pulse, both with regard

to strength and quickness. It is generally from 90 to 137 in the minute. White,

^{The heat.}

however, warns us, that at the beginning the pulse swerves little from

^{The kind of pulse.}

its natural condition, being only somewhat fuller and quicker; but that, as the complaint advances, it becomes quick and small, attended with anxiety and oppression at the præcordia, sighing, dejection of spirits, lassitude, and extreme debility §. On the second day of the

fever the patient complains of vio-

^{Pain in the epigastrium.}

lent pain about the epigastric region, stretching to the false ribs and umbilicus; nay, sometimes to the very shoulder-blades. In the mean time the belly becomes swelled and

raised. If this tension of the abdomen succeeds suppression of the diarrhoea, and is

Swelling of the
abdomen.

attended with pain in the epigastrium and other parts, and the belly is raised, it is a fatal symptom. The countenance is then marked by an inde-

Wildness of the
face, trembling of
the limbs, blueness
of the lips.

scribable wildness, the limbs tremble, the cheeks grow red, the lips become livid, the angles of the nose

appear drawn asunder. In which circumstances no room is left for hope. In the mean time, ac-

The lochia.

cording to Leake, the lochia flow well ; although Hulme denies that this is the case, and, if they ever stop, that the symptoms are not aggravated, and that no delirium nor hysterical symptoms appear. White also affirms, that frequently the lochia are diminished ; he grants, however, that they are sometimes more sparing, and that what comes away is extremely fetid ; sometimes that they are wholly suppressed ¶. The breasts of the patients whom Leake

Milk in the
breasts.

attended, were turgid with milk until the day of their death ; on the other hand, if we believe

White, in some women they become flaccid ; the milk is diminished, and frequently, if the disease is prolonged, it disappears ; although he confesses that this is not uniformly the case. Hulme

says, that he has seen this secretion discoloured, but not diminished, while it is denied by others that this ever happens. The same author considers as pathognomic ^{Pathognomic signs.} symptoms excruciating pain in the epigastric region, succeeded by fever, with great shivering, and pain of the forehead; which symptoms supervene immediately after delivery.

* Sometimes the fever begins before delivery, or even during parturition, sometimes not till the fourteenth day after it, as appears from histories already quoted.

† Most of this is taken from Leake's description.

‡ L. c.

|| The shivering is succeeded first by heat, and next by sweat. *Willis.*

§ When the disease is very acute, it attains its height on the third or fourth day. The heat is then more intense, and the pulse violent and hurried. *Willis.*—When it is becoming worse, and drawing towards death, he allows that it grows weak and irregular. The strength, according to the same author, is almost always suddenly reduced.

¶ When the fever has been universally diffused over the body, the lochia, if they had not been already suppressed, then cease, or become more sparing. *Id. Riverius* says, that in puerperal fever the lochia are generally stopt.

485. White observes that the tongue immediately becomes white and moist; but is shortly afterwards covered with a ^{Appearance of the tongue.} mucous crust, or grows parched, indu-

rated, and black, or the crust on it becomes brown. The teeth also are incruited with a similar brown matter, which is supposed to be occasioned by the putrid effluvia arising from the stomach. Ali-

Vomiting of the
ingesta.

ment and drink of all kinds are generally rejected by vomiting, excepting those which are cold and acidulated. The stools are sometimes so copious,

Smell of the fæces.

frequent and putrid, as to infect the whole house with their fetor, and diffuse the contagion through all the family.

Tenesmus and other
symptoms
about the bow-
els.

At other times the patients were distressed with perpetual uneasy tenesmus, and a frequent desire to make water, accompanied with pains and very uneasy flatulency of the bowels *. In the mean time a pain is felt in the head, back, breasts, sides, hip-joint, and ilia, while the patient is not free from cough and difficult breathing.

Involuntary
stools.

After a passage they generally seem relieved; but the fæces and urine gradually begin to be passed involuntarily; colliquative sweats, hiccup, and convulsions supervene, and at length death sooner or later arrives.

Signs which pre-
cede death.

Generally the eleventh day proves fatal, though instances are recorded of some patients who have died within twenty-four hours, while in others the fatal termination has been protracted

beyond the eleventh. The urine is commonly said to be very deep-coloured † ; it is sometimes, however, pale, or turbid, containing filaments floating in it. Nor is it uncommon, especially in cases where the hot regimen and calefacient remedies have been employed, or too much sweating has been kept up, for petechiæ to break out ‡, or white, red, or mixed miliary pustules to appear, which are first observed about the neck and breast, and are afterwards diffused over the whole body, and followed by a succession of new ones, until the strength is exhausted. For the patients receive no relief from such eruptions, as they are merely symptomatic. In fact, adds White, no critical evacuation occurs in this fever except the diarrhœa ||.

State of the urine.

Petechiæ and the miliary eruption.

Nothing critical but the looseness.

* Great *flatulency* and *tension* are excited in the bowels, resembling the hysterical passion. *Willis*.

† The urine is thick and red. *Willis*.

‡ Willis also in some women took notice of purple spots and other symptoms indicative of malignity.

|| Before White, the same thing had been remarked by Willis ; for, says he, while intense heat, distressing thirst, strong, quick pulse, obstinate watching, constant restlessness, and other severe symptoms are present, and the urine is thick and red, no crisis ever happens, but shortly after a metastasis to the head takes place, in consequence of which the functions of the brain and

nerves are injured, subfultus tendinum occurs, the hysterical fits are increased, sometimes phrenitis takes place, together with delirium, stupor, and loss of voice, &c.

486. The description of the fever, which they have given (483.), corresponds with that of Le Roy, who, taking a brief survey of all the symptoms, observes, Le Roy's description. this fever has a great affinity to other symptomatic fevers of puerperal women. It attacks immediately after delivery; seldom later than the fourth or fifth day. The breasts are soft and flaccid, but preserve their usual bulk. Generally in a short time the most dangerous symptoms make their appearance; nor is there any one so malignant which does not occasionally supervene in this fever. The more usual symptoms are, a weak irregular pulse, sometimes a hard and strong one, looseness, suppression of the lochia, swelled belly with a tympanitic sound, delirium, stupor, coma, subfultus tendinum, convulsive motions of the head, eyes, hands, sometimes also epilepsy, paralysis, and very frequent symptoms of inflammation in the viscera of the lower part of the belly, or of some congestion in the breast. Nor is the miliary eruption wanting*; sometimes, especially in certain countries, or at certain times, or at least when the disease is drawing to a fatal termination, an eruption takes place, about the neck and breast, of small pustules, about the size of pin-

heads, full of limpid serum, which may be mistaken by the careless for drops of sweat. The disease goes through its course with astonishing rapidity, and its speed is in the ratio of its mortality.

* That fever, therefore, ought not to be confounded with the “new disease of puerperal women,” described with great accuracy by Godofrid Welsch, and which prevailed epidemically at Leipfick, an. 1655, proving very destructive to puerperal women. For in it they all had the miliary eruption, which constituted the primary disease, a different disease entirely from the symptomatic, or accessory, spots, which occasionally supervene in the puerperal fever, or are combined with it.

487. I have already shewn what Hulme and Leake have found to be the appearance on dissection (468.). But since I there treated of these dissections in a general way, it is now proper to enter upon the account of them at greater length, as becomes one treating in a particular manner of the puerperal fever of modern authors, the object of our present discussion. Hulme then found the uterus uninjured, but the intestines and omentum inflamed, nay, often gangrenous and mortified, and in the cavity of the abdomen pus and ichor effused from the suppuration and rupture of the omentum. Leake also observed the omentum either wholly consumed Inspection of the viscera. and corrupted, or converted into pus like corrupted milk, or partly inflamed, partly in a state of suppuration: the intestines having the

marks of inflammation externally : in the abdominal cavity, purulent matter like the serum of milk, and matter of a thicker kind mingled with it, and resembling coagulated milk. Nearly the same appearances were observed by Theophilus de Meza *, but in particular the abdominal cavity full of pus, and the various viscera contained in it in a mortified state. He adds, however, that besides the omentum and intestines, the uterus likewise was found inflamed. But he does not take upon him to determine, whether such inflammations and abscesses ought to be esteemed as the cause or effect of the fever. White

An assertion of
White's.

again, with more confidence, denies that the vitiated states, exhibited by the abdominal viscera, are the cause of these fevers, nor does he hesitate to infer, that they are really the effects of them. And this he thinks sufficiently proven by the observations of Pringle, Chicoyneau, Lind, and Lecat, from which it appears, that in all such as had died of *putrid malignant fever*, the intestines and omentum were in a state of corruption ; although it is certain, that in such a case, neither inflammation occasioned the fever, nor did the fever manifest any inflammatory diathesis.

* *Compend. med. fascic. 1. de febr. c. xxiv.*

488. Nevertheless, as I have already observed, Hulme lays so much stress on the above-men-

tioned dissections, that he at once supposes the *proximate cause* of puerperal fever to be inflammation of the omentum and intestines; the *predisposing* one, again, he thinks to consist in the

The proximate, predisposing, and exciting cause, according to Hulme.

pressure sustained by these parts from the gravid uterus, in consequence of which the circulation of the blood in them is not only retarded, but even stopped, in which circumstance, with many others, he imagines that the nature of inflammation consists. Lastly, he seeks for the *procatarctic*, or occasional cause, in the repeated irritation and violent and reciprocal friction of the omentum and intestines on one another, to which they are necessarily subjected, while the uterus, the abdominal muscles, and diaphragm, during the violent throes of parturition, in many ways exert their force and action. Nor does Leake differ from Hulme respecting the proximate cause; since, as I have already said, he has discovered nearly the same vitiated conditions in the bodies of puerperal women. But, as White

Objections.

has very judiciously observed, (besides what we have adduced against this opinion already in par. 469.), were this the case, it would likewise follow, that during gestation the omentum and intestines would be much more liable to such inflammation, and that pregnant women would be more subject to

this fever than puerperal women, when the uterus having become empty no longer occasions the pressure in question, and allows of the free passage of the blood through the neighbouring viscera : or women, who have been brought to bed for the first time, would be much more subject to the complaint than those who have frequently borne children ; though the opposite of this is proved by experience to happen. Nor, even allowing the truth of Hulme's pathology, does it sufficiently explain, why that fever occurs more frequently, and with greater fatality, in lying-in hospitals, and crowded cities, than in private families, or in country districts : as nobody is ignorant, that inflammatory disorders more frequently attack women and others residing in the country, accustomed to a hardy kind of life and violent exercise, than such as reside in great cities in ease and indolence *. Lastly, if this fever arose from inflammation of the omentum and intestines, why is bleeding, which in inflammation is the chief and almost only remedy, if not rejected, hardly allowed by Hulme to be admissible in it ? Why do others consider it as unnecessary, or even detrimental ? How comes it that the puerperal women in the hospital, whose breasts Leake observed to be ulcerated, had a much milder and less dangerous fever, in so much that none of them had any looseness, or was carried off by the violence of the disease ? Why did

the omentum, on dissection, sometimes appear uninjured, as Leake himself candidly confessed, though that seemed to militate against his own opinion?

* L. c. *in postscript.*

489. As I have already (469. to 472.) sufficiently explained the ideas of White and others, concerning the proximate cause and true nature of the disease, I shall not here tire my readers with a repetition of these observations. I must observe, however, that every body, according to the opinion he holds, enumerates those remote causes which he thinks best answer his own purpose. Thus Hulme, if I mistake him not, blames violent labours endured in the time of parturition, as being apt to occasion the inflammatory diathesis: while, on the other hand, White enumerates all those causes which promote alkalescence, or putrefaction of the fluids; such as impure air, animal food, warm drink, every thing of a heating nature, constant lying in bed, too many bed-cloaths, a narrow, close, and warm apartment, promoting of the sweat, and especially the imprudent use of vinous liquors and aromatics, to remove the cold or shivering. For, it is well known, that by means of these things the motion and heat of the blood are increased, sweating is occasioned, and putrefaction

excited, in which he thinks consists the intimate nature of this fever. And he supposes that these causes become worse and more destructive, if, in addition to them, the placenta has been extracted with violence; if the uterus, in consequence of being harassed by too early labour-pains, or by the premature introduction of the hand into its orifice, or by a difficult delivery, becomes inflamed: if the lochia are accumulated, checked, and putrefy, and other causes combine to promote the putrefaction.

THE PROGNOSIS.

490. But however much the above-mentioned writers differ concerning these matters, they unanimously agree with the ancients in pronouncing it to be a very severe and dangerous complaint. For they assent to the observation of Riverius, as confirmed by experience, that the prognosis in this fever differs not from that of other acute fevers, except that this one, on account of the greater debility after delivery, and occasional suppression of the lochia, and other complaints of lying-in women, is much more acute and dangerous, the sooner after birth it attacks the patient *. It is, therefore, generally extremely dangerous. But if at first a

It does not differ
from that of o-
ther fevers.

When it is most
dangerous.

proper regimen be employed, if the lochia flow properly, or be quickly restored, and a proper plan of cure have been employed, it sometimes terminates favourably †. On the other hand, if the fever has advanced far, and has been neglected from the first, death is to be feared, and the more certainly if the patient, while she glows with heat all over the body, is frequently affected with rigors ‡.

* Hulme, l. c. Le Roy, l. c. † Willis, l. c. ‡ *Id. ib.*

491. A fatal termination is foretold, particularly by severe pain in the belly ; Fatal symptoms.
 flatulency ; dyspnœa ; watching ;
 dry, rough, and variegated tongue ; a livid colour of the cheeks ; crudeness of the urine ; green or black vomiting ; and very quick, low, and scarcely perceptible pulse ; involuntary stools ; viscid cold sweats, particularly about the extremities *. To these fatal symptoms Willis adds, restlessness, sudden shocks, or subsultus tendinum, tinnitus aurium supervening on the third day, an indescribable fulness the patient complains of feeling in the head, oppression at the præcordia, weight of the breast, impeded, short, slow, frequent respiration, accompanied with sighing, orthopnœa, and anxiety ; and he says, that if worse affections of the head and nervous system take place, accompanied with a weak irregular pulse, that all is over with the patient.

Among the unfavourable symptoms we are told by De Meza †, that in the course of the complaint the mouth and teeth become foul, dysphagia occurs, the miliary eruption and petechiæ break out, though not critically, dejection and anxiety, alienation of mind, and convulsive spasms take place.

* Hulme, *ibid.* † L. c. c. 24. § 255.

492. We may draw a favourable omen from the patient's turning easily on both sides; from her lying in a tranquil posture; from the tongue being moist, soft, and red; from universal sweats succeeding to slowness of the pulse; from a moderate and constant flow of the lochia; from the urine being turbid, and depositing a yellow, or slightly red sediment. But the pulse claims particular attention. If, from being very quick, that is, 128 or 130 in the minute, it gradually becomes slower and more moderate, we conclude very favourably; on the other hand, if it proceeds to be equally strong, frequent, and changeable, it indicates great danger. Nay, though the other symptoms appear to have ceased, if the pulse still continues very frequent and quick, without a proportional remission of the fever, we must not trust to such an appearance; for generally in a short time all the symptoms suffer an aggravation*. But if the

Favourable symptoms.

flow of the lochia, which had stopped, returns, or a diarrhœa affording relief comes on, it occasionally gives some hope †. But in order to be salutary and afford relief, it ought to render the pulse slower: otherwise it is noxious, dangerous, and symptomatic ‡. Generally the fever which appears early, namely, on the second, third, or fourth day, is fatal, as Riverius remarks. On the other hand, that which after the seventh or ninth day succeeds to diminution of the lochia, for the most part proves serviceable. It is also a favourable symptom when the excruciating pain of the belly is mitigated, a detumescence and softening of the abdomen takes place, warm sweats flow universally and equally, the respiration becomes freer, the subsultus tendinum is allayed, and when the reason returns, and the patient bears the complaint more tranquilly.

* Hulme, l. c. † Willis, l. c. ‡ Hulme, *ibid.*

THE CURE.

493. Since various opinions concerning the nature and causes of puerperal fever are entertained by modern writers, as has already been shewn; in the same manner they are not agreed as to the plan of treatment to be adopted. In particular,

there is no small contest among authors about the propriety of letting blood. Leake, who ascribed this fever to inflammation of the omentum and intestines, advises it to be treated as an inflammatory fever, concluding that the symptoms, if any of a putrid kind may have supervened, proceed from absorption of pus. Wherefore, he recommends commencing the cure with copious bleedings, having a view, however, to the state of the pulse and patient's habit of body. White, again, to whom the fever appears to be intirely of a putrid nature, refrains from bleeding with the utmost caution. Hulme, however, steers a middle course, thinking that no invariable rule can be adopted. For although, along with Leake, he derives it from inflammation of the omentum and intestines, he does not consider bleeding as being always necessary or proper. He, therefore, takes great pains to inculcate the consideration of the symptoms, and, according to their variety, as in other diseases, he thinks it is proper also in this to deliberate with care about having recourse to the lancet. Hence he looks to the degree of the fever and pain, the stage of the complaint, the flow of blood preceding delivery, or succeeding it, and other circumstances of a similar nature. But he does not find fault with bleeding when the pulse is full, strong, and vibrating, or when very severe and lancina-

Bleeding.

ting pains of the belly, epigastric region, and sides, seem to require it. He recommends it, however, only at first, and to a small extent. Perhaps he had been taught by experience, that bleeding was not very salutary in the case of puerperal women in lying-in hospitals, or during the prevalence of certain malignant disorders.

494. To most people, however, it appears that the colluvies in the Purging. primæ viæ holds out the first indication; and they therefore almost unanimously agree that it ought to be withdrawn with all dispatch, beginning with gently-relaxing injections. If they are not sufficiently efficacious in drawing it off, they have next recourse to mild cathartics, particularly the sal catharticus amarus, largely diluted with water, to the oil of the seeds of the *Ricinus Americanus* *, tartar emetic, or antimonial wine, prepared from the crocus antimonii or of metals, and Spanish wine. After cleansing the primæ viæ, and thus allaying the pains in the abdomen, they turn their attention to promoting the sweat; and this they attempt by means of medicines which neither prove heating nor astringent. On that account they prefer small, repeated doses of ipecacuanha, or tartar-emetic, or antimonial wine †, with the addition of a little opium, that they may not stimulate the intestines to too great action, and may promote

the diaphoresis the more. White highly approves of the sp. Mindereri, which is extremely well adapted to this indication. If vomiting is excited, they endeavour to promote it gently by copious draughts of a lukewarm infusion of chamomile flowers. Among these they occasionally inter-

The saline mixture of Riverius.

pose the *saline mixture* of Riverius‡, as being antiphlogistic and diuretic, or, according to others, as being extremely well adapted to incide and correct the viscid bile, and proving antiseptic. But most physicians of the present time recommend the drinking of this mixture in the act of effervescence, that a quantity of fixed air, which is very antiseptic, may not escape. When taken in this way, it is also capable of checking the vomiting itself, when it is obstinate: hence it is also, and not undeservedly, named *antiemetic*. Besides,

The diet.

they recommend bland, diluent, and refrigerant drink ||; and caution the patients against those bandages with which they generally bind the belly; recommend suckling; lying in a roomy, temperate apartment; change of air, taking care, however, to avoid sudden exposure to the cold air; the utmost attention to cleanliness; frequently to sit up, and get as soon out of bed as possible, that the lochia may descend the more readily, and not become putrid by stagnation.

* Leake employs this oil in the following manner : “ *R. olei Ricini vitello ovi subacti unciam unam, magnesiæ albæ drachmas duas, Mann. Calabrin. drachmas tres, aquæ hyssopi uncias octo. M. dentur omni bihorio, aut trihorio duo vel tria cochlearia.*” Instead of this oil, I think we may derive equal advantage from oil of sweet almonds, expressed without the aid of fire, or fresh lintseed oil, or the best oil of olives.

† Leake, with that view, uses the following formula : “ *R. tartari emetici granum unum cum dimidio, magnesiæ albæ drachmam unam. M. f. pulvis dividendus in sex partes æquales ; quarum una detur quovis horæ quadrante ex julapio, quod habet aquæ cinnamomi simplicis, menthæ, vel aquæ communis, ana uncias quatuor, syrapi croci drachmas tres.*” But if the tartar-emetic, though in such small quantity, proves too irritating, and produces too much looseness, he adds to the julap five drops of laudanum, recommending at the same time a copious draught, to keep up a due flow of the sweat occasioned by the tartar-emetic. For information on the various uses of emetics in several diseases, it will be of advantage to consult an essay entitled, “ *Dissertatio inauguralis medica de eximio ipecacuanhæ, necnon aliorum quorundam emeticorum refracta dosi exhibitorum usu, quam in Academia Goëttingensi defendit, an. 1779. Carolus Arnoldus Meyer Hannoveranus.*”

‡ The saline mixture of Riverius consists of the fixed alkaline salt of absinthium, saturated with citron or lemon juice, and diluted with some water. To render it more bland and correcting, Leake adds to it spermaceti and gum-arabic. After vomiting, he uses it to correct and gently draw off the thick and viscid bile, which he had discovered, on dissection, in the gall-bladder.

|| White recommends some infusion in the form of tea, or thin barley, or oaten gruel, or a decoction of tamarinds or

pectoral herbs, or whey, or some similar drink, but scarcely lukewarm, nay sometimes even cold.

495. Such is the general treatment of the simple disease. But if the symptoms, with which it is combined, are very distressing, they treat them also in a particular manner. Frequently diarrhœa, as we have already noticed, occurs in this fever. Hulme considers it as salutary, and therefore not to be checked. Nay, if, after having drunk copiously of diluent drinks, the intestines do not seem to be sufficiently cleansed, he attempts, as has already been shewn, to draw off the fordes by means of emetics and cathartics; in which respect Leake does not disagree with him, as he approves of them also, when there is a superabundance of bile, or it has become corrupted. But he judiciously remarks, that, as the irritability and sensibility of the stomach and intestines are increased by employing them, these parts already irritated are too much harassed; that the disorders and spasms are increased; and the evacuations rendered excessive. On which account, if the looseness exceed bounds, he advises the use of demulcent clysters, and gently diaphoretic medicines. But if, in consequence of these evacuations, the strength is reduced, he does not hesitate to apply to opiates and astringents to allay the diarrhœa speedily. White also, if the intestines

Treatment of the
symptoms.

do not seem sufficiently purged, and the diarrhœa is therefore protracted, advises us to persist long in the use of the neutral salts, or to add to these for each dose half a drachm of the powder of *colombo* root. He likewise recommends small doses of rhubarb given at proper intervals. But if there be no symptoms of irritation, and the presence of delirium do not contra-indicate it, we may safely and advantageously have recourse to opiates, especially if we add to them some ipecacuanha. Leake, however, when he is afraid of a putrid colliquation of the humours, which, on suppuration taking place in the viscera, he supposes to be superadded to the other complaints in consequence of absorption of pus, whatever be its causes, we must without delay oppose it by antiseptics, and particularly by the most powerful of all, the Peruvian bark.

496. Not unfrequently the presence of peripneumony is suspected. In that case some, with Hulme, propose the application of cantharides. But, as their efficacy seems doubtful in some puerperal women, Leake prefers substituting in their stead *sinapisms*. But if the pulse be languid, and the putrid diathesis of the fluids approach nearer, he does not think that the use of cordial remedies is to be neglected. White has observed the pleuritic pain, or any other affecting the breast, often re-

When peripneumony is suspected to be present.

Blisters.

Cordials.

lieved by half a drachm of the powder of the polygala Virginiana, or Seneka, taken three or four times a-day. They employ for the

Pains of the belly.

pains in the belly, arising from flatulency and spasms, injections, and some mixture containing a portion of assafoetida and opium in its composition. But if they are not relieved by the plan proposed, they apply fomentations and cataplasms to the belly, nay, even a large plai-

The lochia.

ster of cantharides. As the suppression of the lochia usually supervenes on the fever, they consider it as the effect; and, in fact, on the fever ceasing, they flow again. But it has already been shewn, that not unfrequently suppression of the lochia is likewise the cause. But among the symptoms which occasion much

The shivering.

uneasiness from the beginning, cold and shivering are almost the peculiar characteristics of this fever, sometimes also rigor, which lasts some hours. According to Leake, nothing is better calculated for dispelling this, after bleeding has been employed, than frequent drinking of warm water, and applying bladders half filled with it to the arm-pits and soles of the feet. It occasionally happens, that the vomiting and nausea cannot be allayed by the repeated exhibition either of emetics or other remedies. It may then be reasonably suspected, that acrimony and corruption of the bile are still the cause of the

continuance of these symptoms. In which case it is proper, three or four times a-day, to give a scruple, or half a drachm, of *colombo* root, or its extract, or a few spoonfuls of an infusion of it, to correct the depraved bile. But if irritation alone occasion the vomiting; it is said that nothing is preferable to paregorics. When the complaint is at length drawing to a termination, they not only pre-^{The treatment towards the end.}scribe keeping the belly open, but that an infusion of chamomile, with elixir of vitriol, should be given for drink, accompanying it with Peruvian bark, to oppose the putrefaction by their antiseptic power. Next, they recommend the moderate use of exercise, that the tone of the viscera may be gradually restored.

497. But we are warned by White, that the symptoms, which in the early days of the complaint indicate the inflam-^{An animadversion of White's.}matory diathesis, or occasion the suspicion of inflammation of some of the viscera, are not of great continuance, and shortly pass into those which clearly shew a putrid disposition. He is therefore with much difficulty persuaded to admit of bleeding, as appears from the histories of the patients already cited, in whom he took care never to draw blood, but considered it as being more eligible gradually to check the fever and its symptoms by means of the cooling

regimen, acidulated and antiseptic drink, and vegetable diet. Likewise the disease, which in the year 1770 proved extremely hostile to all the puerperal women in St Mark's hospital at Vienna (468.), was taken at first to be of an inflammatory kind, and was therefore unsuccessfully opposed by bleeding. But in its nature it was putrid, and the inflammations arising from it very quickly terminated in gangrene. However, as inflammations

Bleeding injurious
to putrid inflammation.

of this kind are malignant and putrid, they by no means admit of bleeding being employed. On narrower examination of the disease, therefore, bleeding began to be omitted by the advice of Störck, and camphor, to a considerable extent, was substituted in its room, together with Peruvian bark; and it was also employed in glysters to the extent of a drachm in each, beat up with two drachms of gum-arabic, and dissolved in eight ounces of water. By this mode of opposing the putrefactive disposition of the disease, more than forty are said to have been preserved.

498. If all the remarks on the puerperal fever of the moderns be duly weighed; if we attend to the thick, putrid bile, which Leake discovered in the gall-bladder, to the bilious, green vomiting, to the nausea, gripes, and flatulency of the belly, and to the diarrhoea and tenesmus, which are the symptoms

The conclusion.

characterising the puerperal disease ; if, at the same time, we consider the remedies by which the patients are restored to good health, namely, emetics, cathartics, correctors of the bile, acedent and antiseptic remedies of all kinds ; we shall be forced to acknowledge, that this fever is not a new and distinct genus of fever, to be treated of by itself, but that it ought to be considered as a particular species of *acute gastric fever*, more or less malignant, putrid, and complicated ; and that it requires the same method of treatment as other gastric fevers, especially malignant putrid ones, of which we have already spoken (373.). That this is the case, the observations of Doulcet, the truth of which has never been called in question, have lately afforded an invincible proof*.

It is a malignant gastric fever.

* In the year 1782, when puerperal fevers attacked several women in the Hôtel-Dieu, and quickly proved fatal, as often happens there, (perhaps on account of the air being contaminated with the noxious effluvia proceeding from the patients bodies, which frequently happens in hospitals), and no method could be devised to avert its destructive effects, Doulcet at length discovered a plan of treatment, by which it is said that all the patients were afterwards saved. At the first invasion of the complaint, he gave five grains of ipecacuanha, divided into two doses, to be taken at the interval of an hour and a half. He repeated the medicine exactly in the same manner next day, whether the symptoms were mitigated or not. He returned on the third, and even occasionally on the fourth day, to the same medicine. During the intervals he gave them a mixture, by

spoonfuls, consisting of two ounces of oil of sweet almonds, one of syrup of althæa, and two grains of kermes mineral. For drink he gave plentifully of the decoction of lintseed, or vipergrafs, sweetened with the syrup of althæa. About the seventh or eighth day he gave a cathartic, and repeated it afterwards three or four times, as there was occasion. *Vid. Journ. de Médéc. de Paris*, t. lviii. p. 448. Which plan of cure, if it in fact proved as successful as the French say it did, in no case seems more eligible than in that of the acute gastric fever, whether proceeding from fordes of the *primæ viæ*, or from inhaling and swallowing poisonous miasmata. For the whole cure is directed to the quickly and powerfully ejecting of whatever noxious matter lurks in the stomach and intestines, to the blunting of any acrimony present, and to the relaxing of the spasms, as easily appears to any one who considers the matter. Nor are we prevented from employing it, by the opinions which the author has formed concerning the retention of the lacteal fluid, and its infusion into the cavity of the abdomen under the form of curds and serum, as he imagines, as well as concerning the peculiar power he supposes ipecacuanha to possess, of strengthening the lymphatic vessels, to support the hypothesis he had preconceived. For effusions like these were found by Lind in the abdomen of those who have died of looseness, or of the yellow fever, or any other malignant and contagious one. But these were observed in men, not in women. See a letter of mine to Curtius, chief physician to the King of Poland, to be found in vol. vii. *degli avvisi sopra la salute umana*, p. 488.

499. But puerperal women do not labour under this fever alone. I have already (472. et seq.)

shewn that they fall into fever from inflammation of the uterus, sometimes from suppression of the lochia, sometimes from aberration and metastasis of the

Puerperal fever
manifest.

milk, sometimes from a bilious or vitiated state of the fluids, sometimes from the air being infected with putrid miasmata, sometimes from checked perspiration, sometimes from the *secundinæ* being retained and putrefying in the uterus, sometimes from dyspepsy, and sometimes from several of these causes being combined ; and that there are therefore various kinds of fevers (481.) with which they are very frequently affected. Whoever, then, retains in remembrance all that has been said concerning the *milk-fever of puerperal fever* (357.), concerning the *acute gastric fever* (373.), and concerning the *continued tertian and causus* (419.) ; will likewise know by what signs it appears, when puer-
peral women are ill from one cause,
when from another, when they labour under one kind of fever, and when under another, and the proper mode of treatment to be adopted in each.

Cure therefore
varies.

THE
CONTINUED QUARTAN, OR TETARTOPHYA.

500. THIS name is applied to that kind of remittent fevers, in which accessions in all respects similar to each other occur every fourth day only, no apyrexia succeeding during the intermediate days. It differs from the intermitting quartans in this, that it is aggravated without cold, shivering, or rigor, and remits without sweat, and never arrives at an actual cessation from fever. It is a fever of such rare occurrence, that Joel, a physician of seventy years of age, never happened to see it *. It is generally of long continuance, and dangerous; nay, according to Sauvages †, it frequently terminates in death. Sometimes it derives its origin from the intermitting quartan. But it seems to proceed from the same causes as those which give rise to other continued remittents. And I have no doubt that it is subjected to the same varieties.

* Cullen. *Gen. morb.* ord. i. *Febr.* sect. 1. gen. 2. Note on the continued quartan, in which the works of Joel are quoted.

† Nosol. cl. 2. ord. 2. gen. viii.

THE TETARTOPHYA SIMPLEX OF SAUVAGES *.

501. Sauvages names that fever simple continued quartan, in which no symptoms of an affection of any particular viscus appear. Its description. “In it,” says he, “the heat is dull, but acrid, the pulse is small and flow at the beginning of the paroxysm, next fuller and quicker than in the intermitting species, a frequent expectoration occurs, the temperament of the patient is melancholic. Unless it occur in the summer time, it is of six months continuance. The paroxysms are typical, without cold and sweat; it is cured by aperients, inciding and antiscorbutic remedies, premising the usual preparatory steps;” namely, bleeding, vomiting, or purging, according as plethora, the inflammatory diathesis, or bad chyle in the *primæ viæ*, may require. But in the treatment of this fever also, The cure. many of the remedies already recommended in various places, as circumstances vary, may have a place here: particularly what we said when speaking of the general treatment of fevers, or the particular treatment of intermittents, may be here kept in view.

502. But besides the *simple tetartophya*, Sau-

vages mentions a good many other species, which ought to have been kept intirely apart, as having no kind of resemblance to it. For, in the first place, the *tetartophya splenalgica**, of which Fernelius is said to have died, was not a *continued quartan*, as he erroneously supposed, but simply an acute continued fever, and, if I mistake not, symptomatic, as being the concomitant of suppuration of the spleen, and carried him off upon the eighteenth day. Fernelius's spleen had been swelled for many years, and perhaps after an intermitting quartan under which he had laboured; but the disease, of which he at length died, was neither an *intermitting* nor *continued* quartan, as we are informed by Plantius, in the life of Fernelius. Nor does the *tetartophya carotica*, which he there mentions from Werlhof†, in the fourth place, belong to this genus of fever, as that mentioned by Werlhof‡ was an *intermitting* fever, and generally of the tertian type. Under the same species Sauvages has also comprehended the fever recorded by Forest, in the thirty-ninth observation of the third book; but the quartan there described is neither of the species called *carotica* nor *comatosa*. Nor can we refer to this head the *tetartophya maligna*||, which he adduces from Marcellus Donatus§, and Horst¶, since it appears from these same authors that it was an intermitting, not a continued

Certain species of
Sauvages set a-
side.

quartan. The fever, again, which he mentions in the fifth place, namely, the *tetartophya semiter-tiana*, or *hemitritæus major* of Schenck **, belongs rather to the *febres complicatæ* and *proportionatæ*, than to the continued quartans.

* Sp. 2. † Sp. 4. ‡ *Observ. de febr.* p. 17. || Sp. 6.

§ L. 3. c. 14. & l. 7. c. 6. ¶ L. 1. *observ.* xv. ** Sp. 5.

THE TETARTOPHYA SOPOROSA.

503. We might with more reason consider the *quartana continua soporosa* of Pifo *, as a variety of the *tetartophya*. It is described as follows: “Of the patients labouring under quartan fever, I remember of a nobleman, John de Reins, of Brenecourt, three winters ago, congratulating himself on having passed without uneasiness the time of the rigor and exacerbation, otherwise very troublesome and severe; for he lay in a profound sleep, which lasted upwards of twelve hours: but I put an unfavourable construction on this comatose affection, thinking that it portended that the fever would not attain a state of apyrexia. And I did so with reason; for about the fifth month he was carried off in one of these sleepy fits.” To this description he shortly after subjoins another similar account of a *comatose continued quartan*, which was named by Sauvages †

tetartophya hepatalgica, because it was combined with inflammation of the liver. Its history is as follows: “ Lastly, I had almost forgot to mention the history of a continued quartan, much more remarkable than the others. It took place in the President Michael Bouvet, in addition to an inflammation of the liver, which lasted until the change of the year, and carried him off within four months. For the beginning of each exacerbation was distinguished by a very small and slow pulse, infomuch so that it was sometimes scarcely perceptible for a few hours, accompanied with very deep sleep, interrupted only by delirium, and it was generally of more than fifteen hours continuance †.” Besides these, two histories of a comatose quartan are to be found in the same author; but I judge it better to pass them over in silence ||,—as it does not appear sufficiently certain whether they were intermitting or continued fevers,—than to adduce uncertainty for fact.

* *Select. observ. & consil. de prætervis. hætenus, &c. observ.* 166. p. 492. † L. c. fp. 3. ‡ L. c. *observ.* 169. || *Observ.* 167. 168.

504. We have already (501.) shewn what the plan of cure ought to be in the simple continued quartan. It now remains to say
 The cure. something of the treatment adapted to any particular symptom, with which the fever

may be combined, as deep sleep, or coma. If the patient's temperament, age, habit, and strength admit of it, blood ought first to be let, then the coluvies of the *primæ viæ* ought to be withdrawn by some melanagogue, or, if the patient be of a cachetic and phlegmatic habit, by means of some mild and correcting hydrogogue. Afterwards the juices of fresh herbs, as succory, taraxacum, agrimony, fumitory, nasturtium, or decoctions, or infusions of them, may be drunk, occasionally interposing bland cathartics, and not omitting blisters, cupping-glasses, sinapisms, and other modes of revulsion, of which we have already made mention. The sleep is remarkably dissipated also by volatile things, as both simple spirits of hartshorn, and that which is succinated, tincture of castor oil, and the spirits of sal ammoniac. But if the complaint does not yield to these remedies, the sleep still continuing to come and go periodically, it must be treated in the same manner as an intermitting fever, that is, by means of the Peruvian bark, the efficacy of which it is better to try, than to commit the patient merely to the uncertain efforts of nature.

PART IV.

CONCERNING
THE COMPOUND CONTINUED FEVERS,
OR
THE PROPORTIONATÆ.

505. **I**N the general division of fevers, mention was made of a fourth distinction (62.), which might contain the *compound* ones; or, as they are called by others, *proportionate*, *complex*, or *complicated*. Having, therefore, finished the enumeration of the *intermitting* fevers, and of the *continued* ones, both *continent* and *remitting*, this is now the place for saying something concerning those that are compounded. But I name those fevers *compound*, which are formed by the union of several fevers of different kinds. The combination of these, again, may be manifold; but I shall confine myself to the principal distinctions: for to give them a particular investigation, would not only be tedious, but altogether superfluous. The

first combination, then, is when different intermitting fevers are blended together, as when the intermitting quotidian is combined with the tertian, quartan, quintan, or intermittents of other types *, or when several quotidians, tertians, or quartans unite together, so as to become double, triple, or quadruple, as we have already shewn elsewhere, when treating expressly of intermitting fevers. Another combination occurs, when intermitting fevers, of whatever kind they be, are combined with continued fevers, whether continent or remittent †. The third combination is formed by uniformly continued, or continent fevers, conjoined with remitting ones ; as when an ephemera, or simple or putrid synochus, or any other of the continent fevers ‡, is united with a quotidian, or tertian, or continued quotidian. And under these heads seem to rank all those fevers called *compound*, or *proportionate*. But those that remain, if there be any others recorded by medical writers, as being either feigned or imaginary, are inconsistent with the regularity of nature, and ought therefore to be exploded.

* When the paroxysms of such intermittents occur at different hours, so that each of them can be distinguished, they are named by Galen *complex*, or compound. But if the accessions of different intermittents happen in the same hour, so as to form almost only one paroxysm, as they cannot be easily distinguished, he names them *confused*. *De Febr. differ.* l. 2. c. vii.

† Storck has often seen an intermitting quotidian combined with the petechial and miliary fever. That happened particularly in the month of September an. 1758. The quotidian required the immediate employment of the bark, and when thus treated it became milder than an intermitting fever, and held on as an exanthematic one. *Ann. med. 1. mens. Sept. 1758.* The same author, in acute vernal fevers, observed frequent horripilation, which aggravated the disease, and was allayed by the Peruvian bark. Hence he has written: “Whether in the spring different intermitting fevers are frequently combined with acute ones, and render them more violent?” *Lib. just quoted, mens. Mart.* He mentions, that in the month of April he had seen acute fevers terminate on the fourteenth day in intermitting quotidian, or tertian. It is possible that the intermittents were then combined with the putrid synochus, on which being discussed, they afterwards became manifestly intermittents, and continued as such. Martin Ghis, a physician of Cremona, observed in his own son, who then laboured under an epidemic ulcerous angina, an acute symptomatic fever, or a continued anginous one, combined with a subintrans, which he removed by the Peruvian bark. *Lettere med. lett. 2. p. 8. Crem. 1759.*

‡ Galen (*De diff. febr. l. 1. c. 10.*) has made mention of a woman, who laboured under an hectic consumption, conjoined with a *putrid quotidian*. Montius, in his commentary on this passage, tells us, that hectic fever may be combined with choleric, phlegmatic, and melancholic fever, and also with sanguineous fever, or synochus, in the same manner as they may be combined together, and in fact sometimes are combined. In the same place Galen delivers the diagnostic characters by which these combinations may be distinguished. Nor is hectic fever said to be combined with putrid fevers only, but it is said to be likewise occasionally conjoined with the ephemeræ, *Ibid. l. c. p. 385.*

THE SEMITERTIANA, OR HEMITRITÆUS.

506. That kind of *compound* fever, called by the Greeks *hemitritæus*, and by ourselves *semitertiana*, frequently occurs in the writings of medical authors. Under this name is comprehended a continued fever, which, though it favours of the nature of an intermitting, or remitting fever, differs from both, on account of its being attended with only half the alleviation and remission of these. But the descriptions of it vary so, that it is necessary to subjoin the author's name to each, to distinguish it from the rest. Galen *, however, assigns two particular marks, or properties, to the real hemitritæus, namely, that it is a *continued fever*, and attended at the same time with *shivering*. If it be attended with neither of these distinguishing marks, he denies that it can be named *semitertiana*. According to him, then, the union of two intermitting fevers, namely, a quotidian and tertian, cannot constitute a semitertian, because it must be a continued fever; nor can it be composed of two continued fevers, because it cannot then be attended with shivering. But let us now proceed to describe the various species of hemitritæus.

Nature of the hemitritæus of Galen.

307. The distinguishing marks, therefore, of the hemitritæus are, that it must be composed of a tertian and quotidian, The various species of hemitritæus. one of the continued, the other of the intermitting type, but particularly of the intermitting tertian and continued quotidian ; or even of the intermitting quotidian and continued tertian, so as that every second day two paroxysms should occur, or be confounded together ; but on the equal days only one, though without any intermission of its continuance. The former is commonly called the *semitertiana* of Galen ; the other, again, seems to be the same as is described by Riverius in the second place, and which is classed by Torti in the number of *semitertians*. Van Swieten and De Haën mention two other species of hemitritæus, of which one is composed of the tertian, having its paroxysms so much The semitertian of Celsus. prolonged, that they leave scarcely any apyrexia. This species is called the *hemitritæus* of Celsus. Those who follow the authority of Celsus, refer to this fever both the *ardens periodica*, and the double tertian, which has become continued in consequence of its paroxysms being prolonged, of which we have already spoken elsewhere. The other, again, is composed of the *acute continued* fever, and the intermitting tertian combined together. This seems to be admitted

by Sennert, as he does not consider it as absurd to name those fevers *semitertians*, which in their nature are intermitting tertians, but conjoined with inflammation of some viscus, by which a symptomatic continued fever is excited, so that from the mixture of both arises a kind of *hæmitritæus*, or *semitertian*. Some, again, name that fever a *semitertian*, which is often or several times aggravated within the twenty-four hours, with shivering and cold, observing no regular order in the accessions, from which circumstance it is named by others *hærrifica*.

508. With respect to the *semitertian* of Celsus, and those of similar kinds, it ought to be referred either to the *extended* and *spurious* tertians, or to the *subintrantes* or *subcontinuæ* of Torti, or to the *tritæophyæ*; nor does it seem to deserve a place here. Nor ought we probably to class here the fever of Sennert, composed of the symptomatic continued fever, proceeding from inflammation of some viscus, and intermitting fever; for in general it is referable to the *comitatæ perniciosæ* of Torti. Those fevers, however, which are aggravated with shivering several times in the day, more properly rank with the *symptomatic*, inflammatory, hysterical, scorbutic, suppuratory, and ulcerous species of fever, or with the acute gastric, or putrid and malignant fever, in which the sensible

The hæmitritæus of Celsus does not belong to this place.

and irritable parts being affected and vellicated by the acrid humours, or by the malignant and putrid effluvia, excite those spasmodic shiverings. It therefore follows, that we ought to consider that fever as the true and proper hemitritæus, which is composed of the intermitting tertian and continued quotidian, or of the intermitting quotidian and continued tertian.

509. That fever is named *genuine*, or exquisite hemitritæus, in which the tertian and quotidian prevail equally ;

The legitimate or illegitimate hemitritæus.

it is named spurious or illegitimate,

when the symptoms of one or the other predominate. Hence the illegitimate species is of a double kind, according either as the

tertian overcomes the quotidian, or the quotidian the tertian, in feveri-

The illegitimate double.

ty. If the tertian prevail, the whole fever is attended with more shivering, and has sometimes rigor superadded to it. It is then accompanied with more heat, and some bilious matter is passed either by vomiting, diarrhoea, or sweat. If, however, it exceeds the tertian, more intense cold affects the extremities, fewer and lighter shiverings occur, the pulse is not very high, the paroxysm increases more slowly, and is longer of reaching its acme ; nor is there either much thirst, or very great heat. Others say that the *genuine* hemitritæus is acute, and of short continuance ; and that

the *spurious* one is of long continuance, and slow in its progress. The former is called by Schenck *major*, and the latter *minor*. To this genus of fever ought to be referred the *amphimerina hemitritæus* of Sauvages (spec. 7.), as also his *amphimerina pseudohemitritæus* (spec. 8.), together with the *tetartophya semitertiana* (spec. 5.), as being compound fevers, and erroneously classed among the *amphimerinæ* and *tetartophyæ*.

510. If any one be disposed, along with Van Swieten and De Haën, to apply the name of *semitertiana*, or *hemitritæus*, to that fever which is composed of an acute continent fever, as the synochus simplex, or putris, and the intermitting tertian combined together, with all my heart; only let him allow, that this semitertian of theirs differs little from the true hemitritæus of Galen. For, in the genuine hemitritæus, we must attend not only to the uniformity of continuance in the fever, and its being attended with shivering, but also the double paroxysm on the odd days, and a single one during those that intervene, are requisite. The diagnosis readily appears from what has been laid down.

Diagnosis and prognosis.

With respect to the prognosis, every semitertian is dangerous, both by reason of its continuance, and its being combined, and on ac-

count of particular symptoms present, or from its being of a malignant nature, or on account of inflammation of internal parts, in which it frequently terminates. With respect to the plan of treatment, it will be Cure. proper to refer to what has already been fully delivered concerning the cure of intermitting and remitting fevers.

THE PROPORTIONATA COMPOSED OF THE SYNOCHUS AND INTERMITTING FEVER.

511. When treating of the continued quotidi-
 ans and tertians, we more than once remarked,
 that frequently some of them, although at first
 continued, in their progress are gradually changed
 into intermitting fevers; and that this sometimes
 happens on account of the fever's being of the
 species called compound, or proportionate, that
 is, consisting of a continued and intermitting fe-
 ver combined. For, on the former ceasing, or
 being resolved, there is no wonder if the other
 should go through its paroxysms more manifestly,
 and shew itself to be an actual inter-
 mitting fever. This occurs espe- When it happens
most frequently.
 cially, as we have elsewhere shewn,
 when intermitting fevers prevail epidemically, or

at least constitute the prevailing and stationary disease. For then almost all diseases bear some resemblance to intermittents, or sporadic, or intercurrent fevers, of whatever other kind, are combined with the intermitting fevers. But this never happens so frequently as in the vernal and summer fevers, or in the premature autumnal ones, which come on in the month of July*; as I myself have observed in various parts, and at different seasons; nor can I help thinking, that the same thing must have sometimes happened to others.

* Van Swieten on Boerhaave, § 727.

512. It is from the beginning a continued fever, and begins with slight cold or shivering; it is then aggravated, and proceeds with almost the same symptoms as those attending the simple or putrid synochus, generally after the manner of a continent fever, unless that it is somewhat aggravated, either daily, or every second day, either in the evening or morning; and after a few hours turning milder, and a gentle sweat coming on, it returns to its usual degree, which is such as characterises continent fevers. Frequently, however, during the first days of the complaint, it exhibits no such marks of increase or alleviation, at least sufficiently unequivocal, nor is it aggravated with

Description.

any cold or shivering, but continues violent and constant, until, after from four to seven days have been passed, or, at most, eleven or fourteen, gradually losing that uniform continuance, it first remits periodically, and lastly terminates in intermitting quotidian or tertian, repeating its paroxysms, sometimes with cold or shivering, sometimes intirely without them, and at stated periods sweat, or urine depositing a sediment, or diarrhœa, or all of these evacuations supervening, it is at length gradually resolved, and disappears.

513. It, therefore, seems only to end in intermitting fevers, when the synochus, whether simple or putrid, with which it is combined, has been discussed by bleeding, purging, diet, rest, and diluent remedies. But when neither cold nor shivering precede nor announce the paroxysms, it happens at least that the patient, as the paroxysms is about to take place, feels very urgent thirst, complains of heaviness about the epigastric region, and breast, is oppressed with anxiety, is affected with a dull pain about the back and joints, becomes sick, and vomits, is restless, and cannot enjoy sleep: but, as the fever is approaching to its acme, and these symptoms somewhat remitting, violent headach succeeds, burning heat, flushed face, and some-

The diagnostic marks, when cold is not present.

times delirium, which, however, as I have already observed, when the fever has taken a turn, disappear; the skin becomes relaxed and soft, sweat breaks out, thick, dark-coloured urine is passed, the senses return, and rest or some sleep steals on the patient.

514. The attentive consideration of these things, the known phenomena of the synochi and intermitting fevers, the prevailing epidemy, the season, and other such circumstances frequently explained elsewhere, easily lead to the diagnosis. It is distinguished from the *subcontinua* of Torti, by its not at all intermitting from the beginning, and not passing from the intermitting to the continued form; from the *subintrans*, again, because its continuance, at least during the first days of the complaint, is more uniform: nor is it aggravated with any cold, or shivering, which are usually present in the *subintrantes*. For nearly the same reasons, it differs also from the genuine *femitertiana*. It is generally attended with no danger, if properly treated; but when neglected, or improperly managed, it degenerates into an inflammatory fever of some viscus, into an ardent, malignant, and pernicious one.

C U R E.

515. At first bleeding ought to be employed, and may even be repeated, according to the degree of its violence, and the severity of the symptoms ; and all these remedies ought to be administered, which we have already shewn to be of service in simple and putrid and synochus. Bleeding and purging. If symptoms of a bilious or gastric colluvies betray themselves, it must be expelled,—so soon as the violence of the fever has in some measure subsided,—by means of a cathartic and refrigerant remedy. Sometimes, also, there may be room for an emetic, especially when a bilious colluvies is present in the *primæ viæ*, or when the time of the year, and climate, or remote causes require it. When it has arrived at the intermission, what ought then to be done, it is unnecessary here to observe, since we have already treated at length of the cure of intermitting fevers, both in general and particular. The highest benefit will be derived from the Peruvian bark, which, also, when the fever has not yet become a true intermittent, but only a remittent, resembling the species named *subintrans*, *communicans*, or *coalterna*, although it be aggravated without cold or shivering, will

most assuredly overcome it, provided it has acquired the other marks and peculiarities of intermitting fevers.

516. It sometimes happens that this fever is prolonged for a length of time without attaining an intermission, or renews its continuance with irregular and anomalous paroxysms, so that it cannot come under the head of any type. Pringle * and Buchan †, in that case, do not despair of rendering it regular, and of bringing it to be of the nature of a manifest intermittent, if bleeding and purging have not already effected it, by giving several times a-day neutral salts, or administering an emetic and repeating it. With this view he twice a-day administered Riverius's mixture, containing a scruple of the salt of absinthium, half an ounce of lemon-juice, and half a drachm of white sugar ; or, instead of it, every fourth or sixth hour he recommends four spoonfuls of a similar mixture, made as follows :
 “ R Sal. absinth. drach. unam. Sol. in aq. font. unciis decem ; et instill. spir. vitriol. quant. suff. ad saturat. deinde add. aq. cinn. spirituof. sesqui unciam, syrup. cortic. aurant. unciam.” And if, as the paroxysm remits, the sweat ceases, or flows more sparingly than is necessary, he attempts to promote it by an ounce of sp. Mindereri, divided

When it does not
intermit.

Those things
which accelerate
the inter-
mission.

into two or three parts, and added to the drink. Buchan, however, excites vomiting by fifteen or twenty grains of ipecacuanha, or by tartar emetic diluted in a great quantity of water, and given in small draughts, until it produces the desired effect.

* Diseases of the army.

† Domestic Medicine. t. 2. c. xi.

517. The remitting fevers, which Morton mentions as having yielded to the bark *, seem to have been of this stamp; as well as the malignant and pernicious ones, of which Lapius has made mention as being peculiar to the vicinity of Rome †, and admitting of being cured by the same remedy. Nor should I consider as being very different from them, the *bilious* or *remitting fever* of Pringle, of which he has given a most faithful description ‡; as well as that other named by Buchan || *remitting*, a fever of various nature, sometimes regular, sometimes irregular, frequently resembling the *bilious*, *nervous*, or *putrid fever*, and easily passing into *inflammatory* or *malignant fever*, unless the author, under this name, has heaped together various kinds of fevers, as I suspect he has done. Were it at all necessary, I might mention several other fevers which come under this head, but the instances already quoted

The fevers which come under this head.

seem sufficient. This being the case, it is now high time to pass them over, and close our account with the general treatment of not only the compound, but of other fevers also. It is to be wished, however, that the pains and labour which I have spent in collecting, examining, and digesting the facts I have delivered on this subject, may be attended with equal advantage to my pupils. Be that as it may, some credit at least will be due to the attempt and the intention of the author. In the following volume, I shall speak of the exanthematic febrile diseases, which come next in order §.

* *De febr. exercit.* 2. † *Ragionamento contro la volg: opinion. di non poter venir a Roma nella state*, p. 13. 45. 47. Rom. 1749. ‡ L. c. || L. c.

§ Here ends the first of the four octavo volumes of the original work. But the author's division being intirely arbitrary, and in no measure affecting its utility, it has been found more convenient to throw the translation into five volumes.

T.

APPENDIX

TO THE

REMITTING FEVERS WHICH OBSERVE SOMETIMES THE
QUOTIDIAN, SOMETIMES THE TERTIAN TYPE*.

THE PRIMARY, OR ESSENTIAL, COLLIQUATIVE FEVER.

518. IF ever the body is extenuated by excessive evacuations from the bowels, or by the urine or sweat discharged in too great quantity, it is then said to be in a state of *colliquation*, and the fever, if there be any, which accompanies the exhaustion of the body, is named *colliquative*, or *colliquans*. But the body colliquesces in such a way, that the blood and other fluids being too much dissolved, and almost corrupted, flow out in various parts under the form of evacuations. This is commonly supposed to proceed from some heterogeneous, acrid, melting, alkaline, septic principle. But that kind of colliquation does not always proceed from such a cause. For it is sometimes enough, that the

What is meant by
colliquation and
colliquative fever.

In how many
ways the body
may undergo
colliquation.

fluids are so changed by spontaneous degeneration, as to lose their natural crasis and power of cohesion, become thin, and putrefy, in consequence of the mixture of their elements being deranged; and, at the same time, that the solids, especially the secretory and excretory organs, are relaxed, stretched, and become so unnaturally patulous, that their contents are allowed to pass off in all directions.

* § 436.

519. There is generally a strong disposition to colliquation in slow and chronic diseases, especially in such as succeed to phthisis and wasting of the body. Sometimes, likewise, acute diseases have such a tendency, especially malignant, ardent, or putrid ones, as we have already frequently observed. But we have remarked, in particular, that such a colliquation is often discovered in the *acute gastric fever* *, sometimes in the *bilious tri-tæcphyræ*, or *continued tertians* †, and much more frequently in the *causi*, both continent ‡ and periodical ||. We learn that it has already taken place, “by the supervening, on the fourth day, of crude, thin, pure, frothy, fetid, fatty, and bilious stools, which neither afford any relief, nor prove critical: but, about the seventh day, by copious urine, in which

The diseases liable to this colliquation.

Its symptoms.

melted fat floats, and, lastly, by sudden wasting of the whole body.” But as these kinds of colliquation either supervene on fevers, or, to speak more properly, in some measure proceed from them, they ought to be considered as being intirely secondary with respect to the disease, and therefore as a symptom of it, or the symptom of a symptom, and not requiring any particular treatment.

Secondary colliquation.

* § 436. † § 421. ‡ § 262. || § 422.

520. But besides the colliquations and colliquative fevers just mentioned, there are also primary, or essential ones, which neither arise from other diseases, nor from any degenerated fever. Such occur in practice at the very first, although they be not easily distinguished, and are commonly confounded by many with the secondary or kindred fevers. These have been observed both by the moderns and ancients, and the name of *colliquative* fevers has been given them, as may be found in the works of Quesnay *, Raym. Fortis †, Ettmüller ‡, and others. I have several times treated a species of *colliquative fever*, which really belongs to this genus ‡, attended in particular with a diarrhœa, the cause of which may be readily supposed to be gastric fever, which, in like man-

Primary colliquative fevers.

They are often confounded with the gastric fever.

ner, is generally conjoined with looseness, and the rather that the fever itself, like the gastric ones, is a remitting fever, sometimes observing the quotidian, sometimes the tertian type. But it differs from the gastric fever, because it does not shew symptoms of indigestion; because the tongue is not foul; because there is not a bitter taste in the mouth; and because the patient is not so much distressed with nausea or vomiting as in the gastric fever, in which the febrile fomes is lodged in the *primæ viæ*, and does not enter into the blood, unless indirectly; while, on the other hand, in the colliquative fever it primarily resides in the blood and other fluids, and is not carried to the *primæ viæ*, or intestines, but in a secondary manner. For each of them, as appears, proceeds from a colliquative and corrupting cause, but situate in a different part, and acting in a different manner.

* The *Febris colliquativa putrefaciens* of Quesnay, *Des fev.* t. 2. p. 391.

† The *Febris colliquativa* of Raym. Fortis, *De febr.* and of Ettmuller, *oper.* t. 2. P. i. p. 337. The *Febris tropica* of the ancients, Quesnay, l. c.

‡ In the first edition of this book, I purposely omitted mentioning the colliquative fever, although in my academical course I had been accustomed to explain it. For I was afraid it might appear superfluous, after having, in several parts, al-

ready in some measure dissolved colliquation of the fluids and colliquative fevers, and having observed, when treating of gastric fever, that every looseness, which attends it, does not depend on the gastric colluvies, but sometimes on a conflux of bad humours from the whole body to the intestines (374.). But, on weighing the matter more maturely, I thought it advisable, in this edition, to set apart an express chapter upon it, that no assistance to be derived from careful attention to diseases might be wanting to the student.

521. Moreover, the gastric and colliquative fever not only differ in the seat of the morbid cause, but also in its effects, and in the method of cure. For,

They differ not only in situation, but in effects.

although in both of them thin stools are present, and cannot be suppressed without injury, there is this distinction between them, that the gastric fever both requires and bears purging, in consequence of which it is rendered milder, and a crisis shortly occurs; while, in the colliquative fever, cathartics, unless they be very gentle, and employed with the utmost caution, prove extremely injurious, neither lessening the disease, nor rendering it of shorter continuance, nay, by inducing an excessive diarrhoea, even exhaust the strength. In the former, the fordes, stagnating and putrefying in the intestines, occasion the complaint, and, therefore, may be safely and advantageously drawn off by purging; and, in this way, the fever itself must necessarily be dimi-

nished. In the latter, again, whatever part of the blood and other fluids is rendered putrid and becomes colliquated, gradually passes in a great measure into the bowels, and ought to be expelled as noxious and vitiated; but that does not cause any diminution or amelioration of the colliquating and corrupting cause existing in the veins, and occasioning the fever; nor does it detract any thing from its severity and duration, until the colliquation is finished, which happens gradually, and not for a long time. But, when so great a tendency to colliquescence and putrefaction exists in the fluids, were cathartics to be improperly administered, they would so increase the dissolution, and cause so immoderate a discharge by stool, that the evacuations arising from thence could scarcely be suppressed.

522. Having pointed out the difference between each fever, it remains for me to describe the colliquative fever by the marks it generally puts on. I have already said, that it is a continued fever, observing the order of the continued quotidian, or tertian. To which I may now add, that sometimes, though rarely, it assumes the symptoms of an ardent fever, and is long protracted, in consequence of which it was named by the ancients *tropica*, and by which it is chiefly distinguished from the gastric fever, as it is

The appearance
the colliquative
fever puts on.

usually of shorter duration. At first the colli-
 quative fever is in general not very acute, nor vio-
 lent, and, when the disease is simple, pure, and
 benign, in its progress it becomes milder and
 more tolerable. The pulse is gene-
 rally soft, frequent, and weak. The The pulse and
looseness.
 fever is for the most part attended
 with a diarrhœa, consisting of matter which is
 thin, fetid, crude, not much varied, fatty, fre-
 quently resembling dissolved soap, depositing cer-
 tain small, whitish, concrete substances, like suet,
 or very thick gravelly matter, but unattended, as
 I have already observed, with symptoms of
 manifest indigestion. Besides the The sweat.
 diarrhœa, which has always ap-
 peared to me to be the most usual evacuation in
 this fever; there are generally present constant,
 viscid, greasy, fetid sweats, and other marks of
 dissolution. At least an oily and fetid vapour
 proceeds from the body. In pro- An oily vapour.
 portion to the frequency and degree
 of the evacuations is the strength more and more
 exhausted. With regard to the The strength.
 urine, at first it is neither very
 thick, nor turbid; but it generally contains a
 cloud; or a thin, divided enœore-
 ma is suspended in it; or it is co- Urine.
 vered on the surface with a fatty pellicle. It
 then becomes by degrees thicker, and of a dusky

red colour, depositing a similar sediment, that scarcely coheres, and is unequal, becoming at length like bran or flour, or changing into a mucous, viscid sediment, of various colours. Frequently it does not all fall to the bottom of the pot, but partly adheres to its sides, and is partly mingled with the urine itself, obscuring or taking away its pellucidity. When first, however, the urine is passed, it is generally clear and limpid; but shortly afterwards, on cooling, it becomes turbid throughout, because the cold coagulates and condenses the fluids which were disposed to unite together. Shortly afterwards it again becomes clear, thin, and crude, and again turbid and thick; thus undergoing various changes through the whole course of the disease. Sometimes nothing of that kind happens. So great occasionally is the attenuation and dissolution of the fluids, that nothing is imparted to the urine which can again become sluggish, or thicken on the approach of cold.

523. But the inspection of the urine in this case is of such consequence, that nothing with more certainty indicates the presence of colliquation, or shews that it has drawn to a termination. For it never appears natural unless the colliquation has intirely ceased; so that the frequent changes of the urine afford the clearest proof that the disease

The urine affords
the surest sign
of colliquation.

has not wholly ceased, although the diarrhœa and sweat have altogether stopped, and the fever appear to have completely disappeared. For sometimes, especially when the disease has proceeded a considerable length, the fever ceases, although the colliquation and corruption of the fluids have not yet altogether terminated. In that case, since the fever is absent, and the weakness requires attention, frequently food, to considerable extent, is allowed sooner than is proper; but the impropriety of such a proceeding is evident, from the fever being immediately revived by it. We must, therefore, wait for a return of the natural condition of the urine and fæces, before we conclude for certain that a termination of the colliquation has actually taken place. On the other hand, if any unnatural appearance is still observable in them, if the excrements pass off too thin or soft, if the urine is in some degree turbid, and emit a fetid smell; there can be no doubt that the colliquation is still going on.

Sometimes, tho' the fever ceases, the colliquation continues.

How that is known.

524. I have already observed, that it is of long standing. For it is often extended to thirty, or forty, nay, to sixty days, and frequently beyond that period, so that it more frequently belongs to the diseases named *acuti ex decidentia*, than to the

Duration of the disease.

simply acute ones. Some have seen it prolonged for several months. But it then must have belonged to the genus of chronic and slow fevers. Quesnay records, that he saw it of such duration and obstinacy, as not to leave the patient for six months; whom, after being reduced to the last degree of emaciation, he at length restored to health by the use of ass-milk. Nor

Besides continued
colliquative fever.
intermit. ones
are adduced.

do continued fevers only, but intermitting ones also, exhibit the effects of colliquative fevers, and even sometimes are actually such. In some intermitting fevers, especially pernicious ones, it not unfrequently happens, that the patients, within a short time, are reduced to the last degree of debility. That cannot happen but in consequence of the fat of the whole body being dissolved by the violence of the febrile ferment. Quesnay likewise makes mention of a colliquative intermitting tertian, which lasted for three months. In this fever the colliquation seems to have been milder than I observed it to be in the pernicious ones, in which the patients, after a few paroxysms, were so much extenuated, that on recovering from the fever, by means of the bark, they had more of the appearance of skeletons than of men.

525. Hitherto I have been describing the benign colliquative fever, or that unattended with

affections and spasms of the nerves ; by which circumstance Quesnay supposes it is to be distinguished from the malignant species. For he supposes that one to be malignant which affects the head and nerves ; injures particularly the animal functions ; induces spasms, and, in consequence of them, causes fatal gangrenes or sphacelus ; or depositing a vitiated fluid somewhere, suddenly deprives the parts on which it falls of sense and life. Nor is subfultus tendinum wanting in this species, convulsive motions of the limbs, irregular and inordinate pulsations of the arteries, and spasmodic pains of the head and breast, succeeded at last by death. But according to the different degrees of colliquative acrimony, and of the colliquation itself, the effects are said to be more or less various, so that not only the fluids, but also the solids themselves, are dissolved.

But in each species of this fever, namely, the benign and malignant one, there seems to be but one cause, only different in degree and badness. Quesnay, lately quoted, who has devoted an express chapter to the discussion of it, supposes that some one of the fluids becomes putrid and dissolved, which gradually diffuses itself like a ferment, and succe-

The benign colliquative fever hitherto described.

Concerning the malignant one.

In each species the cause the same, only differing in degree.

An opinion of Quesnay.

sively passing from one to another, according as it finds them disposed to putrefaction, contaminates, corrupts, and dissolves them, until the accession of fresh and acescent fluids puts an end to the colliquation; although it is not easy to comprehend how any fluid can become putrid and dissolved, without the remaining ones being affected. It is probably nearer the

A more probable
conjecture.

truth to suppose, that the blood, not in its full extent, but only in some part of it, is vitiated, corrupted, and dissolved, and that this takes place slowly and successively, until every fluid has undergone the same change, is gradually excerned, and, after the addition of new fluid or chyle, restored to its usual condition. But

The fat probably
first vitiated.

if any fluid seems deserving of being blamed more than another, it would appear that none can be accused with more justice than the oily, or inflammable one, to which the name of *adepts*, or fat, is given. For it, in consequence of stagnation, or spontaneous degeneration, or any other cause supervening, may become depraved, rancid, gradually corrupted and dissolved, and may render the other fluids so vitiated, as not only to excite fever, but to increase each of the evacuations, especially the quantity of bile in the liver and gall-bladder, and evacuate the whole body, not ceasing to injure the animal economy, until the whole of it

has been excerned ; as the extreme debility, quickly succeeding, the fetid and fatty stools, the oily urine, and oily thick sweats, with which the fever is attended, seem sufficiently to demonstrate.

C U R E.

526. In the cure of the benign colliquative fever (525.) two things in particular must be observed, namely, to expel from the system whatever is corrupted daily, and becomes hostile to the natural condition of the body, lest by being retained it increase the cause of the disease and the dissolution ; and to correct the acrimony of the corrupting and colliquating fomes. The first indication is answered chiefly by those things which quickly and gently draw off the depraved humours that are carried to the intestines ; such as a decoction of tamarinds in whey, or some other very slight cathartic, taken in good time, and drunk daily, but, above all, frequent and mild clysters ; and the other indication is fulfilled by diluents, acefcent, acid, and austere remedies, by those containing flour in their composition, and which blunt a-

The indications
in the benign
species.

How they are an-
swered.

crimony. Sometimes one, sometimes another remedy ought to be prudently employed, until the whole taint of the blood has been cleared away. For, as Gorter has very justly observed, “The corrupted fluids can neither be corrected, nor be all expelled at the same time; and when retained they degenerate into a worse kind of corruption. On which account a moderate evacuation must be made by some convenient passage, while we prevent the farther progress of the complaint by means of antiseptics.” But there is no occasion for now explaining at length what substances possess this power, and may be conveniently employed in this case, since we have already said enough on that subject elsewhere.

527. But in the malignant species, when the colliquation exerts its violence not only on the fluids, but also on the solids, the danger is more imminent, nay, certain death threatens. According, however, to the various degrees of injury which the solids sustain, various degrees of violence in the disease and danger succeed, in so much that some have supposed it capable of assuming such accessory phenomena, as to resemble not only malignant fever, but even the pestilential species, and that of the most violent kind.

Why greater danger attends the malignant species.

With respect to the cure, it is effected chiefly by the remedies recommended in treating the benign species, with this Cure nearly the same. only difference, that there is more occasion for antiseptic acids, and the belly ought to be evacuated with more caution. For there is greater danger of exciting violent evacuations on the slightest occasion, and of extinguishing the vital power. We prevent distensions and spasms of the nerves by those means which possess both an How to prevent the spasms. anodyne and subacid power ; for instance, the volatile salt of amber, and its spirit ; Homberg's sedative salt ; salt of hartshorn and vinegar ; Hoffman's mineral anodyne ; the succinated liquor of hartshorn, with the acid predominating ; and so forth. But if the spasms impede the vital actions, and exhaust the patient, it is necessary to add to When cardiacs are to be added to the anodynes. the anodynes and antispasmodics already enumerated, opiates, as laudanum, the-riaca, diascordium, mithridatium, and the like. Nor will camphor then be improper, particularly dissolved in vinegar. In the mean time we must not omit bland injections, Injectons to be continued. to gently draw off the fæces. It may be doubted whether it would be proper to employ blisters, lest they might tend to in-

crease the dissolution of the fluids. But as they may draw the deleterious power of the disease to the surface, they ought not to be wholly omitted; especially when both the vital power is languid, stupor and coma oppress the patient, and the strength is intirely exhausted. In a doubtful case, epispastics, without cantharides, will be safer. To the antiseptics already recommended are to be added, decoction of bark, acidulated with spirit of vitriol, and a saturated infusion of arnica, to which much efficacy is ascribed by Collins, Stoll, and other physicians of Vienna.

Utility of blisters doubted. In general bleeding is not allowable, as appears; and, if it is ever admisible, it must be at the very beginning, when the excessive violence and heat of the fever may not increase the acrimony. The food should consist of rice, oaten, or barley broth, and the gruel of these, veal jelly, prepared with citron acid, emulsions of the seeds of melons, and sweat almonds, oranges, acid fruits, prunes, strawberries, cherries, boiled pears, and the like. For the drink may be given cold water, and, when excessive colliquation of the fluids, and laxity and atony of the solids, are present, it may be given

Epispastics safer.

Other antiseptics.

Bleeding, when fit.

The diet.

Drink.

even ice-cold. The air of the bed-chamber should be frequently renewed, and incline to cold; care being taken, however, that the premature checking of the evacuations do not cause a fatal metastasis to the internal parts.

The air.

ALTHOUGH this may not seem to be the proper place for inserting a Preface, as the Author prefixed to his second Volume the following observations concerning with the exanthematic febrile diseases, the Translator has deemed it necessary not to omit them.

TO THE READER.

THE following Volume comprehends the exanthematic febrile diseases, consisting of a particular eruption, generally combined with fever, which, however, on account of the fever being neither essential to their formation, nor always accompanying them, I have thought proper to expunge from the class of fevers, and treat of them apart. But what I consider these diseases principally to be, will appear from the index of the chapters annexed, since I have separated them from almost innumerable affections of the human body, and, after collecting

them together, have explained each in its own place. But such is the affinity subsisting among them, that it must appear perfectly evident, that they are connected together, not as it has pleased me to arrange them, but in their own intimate nature, without the exception even of the petechiæ, which some modern writers intirely reject from this class of diseases. For, in the petechial disease, almost all the symptoms which take place in the miliary complaint, likewise occur, giving rise to such a resemblance between them, that neither, or both of them, must be confessed to come under this head. But the first never can be alleged, as no one, however slightly versant in the practice of medicine, would take upon him to deny that the miliary eruption is a primary or essential disease, without being deservedly held up to derision. As the nature then of both diseases is the same, and no difference exists between them but in the form and matter of the eruption, it follows that they both justly claim a rank among the exanthematic diseases, of which we are about to treat. Which will appear more evidently, if, after perusing the first chapter, in which the symptoms in common to the class are enumerated, the observations made in the succeeding ones be read with due attention, and without prejudice. I hope that the farther the student advances, and the more earnestly he weighs every circumstance, he will the more clearly perceive the correspondence between the preceding and subsequent parts of the subject, and their mu-

tual dependence upon each other. It will appear, I doubt not, to my pupils, as a new work, as I used to touch upon it but lightly in my public lectures, the shortness of the time allotted to giving a complete view of the practice of medicine preventing my expatiating on the subject at greater length. It is now proper to bestow upon each of them such a discussion as I have given of the febrile diseases in the first volume of this work, that is, as full and accurate a one as possible, collecting my materials from all quarters, and, in controverted points, bringing in my own opinion as reason or experience seemed to dictate. I have made very honourable mention of the authors from whom I have either derived any advantage, or by whom any discovery, or observation, sanctioned by experience, has been brought forward ;—not from the narrow motive of acquiring celebrity by an ostentatious display of my learning, as is too commonly the practice, but that any one may immediately be assured that what he finds laid down or recommended by me, does not rest on my own authority alone, but is generally the discovery of some one of my eminent predecessors, or, if it be new, he may know by whom it has been lately advanced. For I have always considered it as disgraceful, and much beneath a man of integrity, to follow the example of those who, desirous of appearing men of extensive knowledge and observation, make no mention of the sources from whence they have derived their information, as if conscious that if they candidly acknowledged their obligations to others, scarcely

any part of the credit would remain their own. I have, therefore, deprived no man of the merit due to him, a piece of conduct by no means generally observed, thinking it, with Celsus, extremely unfair, either to rob the moderns of their discoveries, or not candidly to acknowledge our obligations to the ancients. I have occasionally illustrated the subject both by examples of my own and those of others; nor have I omitted sometimes the singular and very excentric observations of certain authors, always pointing out their names, that the student might not be ignorant upon whose authority he relied. Nor have I thought proper to omit the mention of certain phenomena, as being of very rare occurrence, and taken notice of by very few authors. For what one person could have observed, or persuade himself that he had noticed, all the circumstances connected with so extensive a branch of the practice of medicine? In the annotations which are frequently subjoined to the paragraphs, I have endeavoured to establish the truth of certain facts not generally known, or but slightly hinted at in the text; or to invalidate certain hypothetical opinions, or to elucidate and adjust occasional controversies. Lastly, with a view to the instruction of my pupils, I have taken care to make mention of the remarkable treatises published on any particular disease. Thus far it seemed necessary to apprise the reader, previously to entering upon the subject.

CHAPTER I.

CONCERNING

THE EXANTHEMATIC FEBRILE DISEASES,*

IN GENERAL.

I. THE word *exanthema*, signifying an *efflorescence*, or *eruption*, is derived from ἐξάρθew, *effloresco*, or *erumpo*. It is properly applied by physicians to denote the papulæ, or pustules, which break out on the skin, and are raised above it, or render it in some measure unequal. It is extended, however, with less propriety, and in a looser sense, by men too of great respectability †, to those spots which only discolour and deface the skin, but, being perfectly plain, do not raise it, or render it rough. I hope, then, that no one will object to my employing it in both senses, and even in a more extensive one, comprehending by it every eruption which takes place on the surface of the body, whether prominent or smooth, confined or extensive, sparse or thick, uni-

Meaning of the term exanthema.

The sense in which we use it.

form or manifold, provided it be of that kind which,—on account of its generally succeeding some febrile accession, or being more or less accompanied by fever, or occasioning it,—may be named *febrile*, and was once generally included in the number of fevers.

* Synonyms. The *Febris Eruptiva* of Allen, *Synops. univ. med.* § 219. ed. Venet. 1762. The *Febris Exanthematica* of Authors, and Neifeld, *Rat. med.* § 449. subsect. x. Schacht. *Instit. med. pract.* c. xi. p. 47. The *Exanthemata Febrilia* of Boerhaave and Van Swieten, *Aph. de cog. et cur. morb.* § 723. The *Phlegmasiæ Exanthematicæ* of Sauvages, *Nosol.* cl. 3. ord. 1. The *Exanthemata* of Sagar, cl. x. ord. 1. & 2.

† Fernel. *Pathol.* l. i. c. 8. l. 4. c. 18.—And Van Swieten on the aphorisms of Boerhaave, to § 723.

2. Before entering on their discussion, we must call to mind a very necessary and useful distinction, by which exanthematic diseases are divided into *primary*, or *essential*, as they are called; and into *secondary*, or such as are *not essential*. But concerning the *secondary*, or *not essential* ones, which we have already observed belong more properly to fevers and other diseases, as accessory, or accidental symptoms, we have already spoken elsewhere at considerable length; and have not improperly, if I am not much

The distinction
into primary and
secondary.

deceived, reserved for this place the primary, or essential ones, such as *small-pox*, *measles*, *scarlet fever*, the *nettle-rash*, sometimes the *miliary eruption* and *petechiæ*, very frequently *erysipelas*, and similar complaints. Because these exanthematic diseases, however, as we do not deny, are sometimes preceded, sometimes accompanied, and sometimes only succeeded by fever, which I shall shortly shew; they ought on that account to have been called *febrile diseases*, not *fevers*. But we have repeatedly pointed out the reason why, with most of the ancient as well as modern nosologists, we separated them from fevers properly so called, which was done especially when we treated of the *division and differences of fevers* *. And it was then particularly observed, that sometimes the fever neither precedes nor accompanies them, as not unfrequently happens in the mildest kind of small-pox †, in erysipelas ‡, in the nettle-rash, in petechiæ, and in the miliary eruption ||. It was moreover remarked, that, when the fever has preceded, on the eruption becoming complete, it generally ceases, or is certainly much diminished, while the eruption, or principal complaint, continues, and performs its natural course, until it arrives at the usual period of its termination. That is particularly observable in simple and mild erysipelas, and in distinct and

mild small-pox, in which the fever which had preceded, and ceased on the eruption appearing, does not return, unless a new eruption is about to take place, or that which has already broken out is advancing to suppuration.

* Vol. 1. § 56.

† Cæf. Marefcot. *Tract. de variol.* p. 19. 20. I was a pupil of his, when he was far advanced in life, though of easy access, humane, and profoundly learned: he mentions four cases, in which the fever was absent, one from Marcellus Donatus, another from Philip Ingrassia, and two which had occurred to himself.

‡ Meza, *Comp. med. pract.* fasc. 1. cap. 17.

|| Depre de Lisle, *Dissert. sur la fièvre miliar. de fem. en couche*, p. 7. and 18. who mentions that the white miliary eruption of lying-in women often occurs without fever, and that likewise the mild red miliary eruption is scarcely attended with any fever; as I myself have often observed. But more of this in its proper place.

3. Add to this, that the fever, when it is conjoined with these diseases, observes no regular order, and no uniform type, by which it can in general be referred to any particular genus. For it sometimes assumes the appearance of a continent, sometimes of a remitting fever, sometimes that of an anomalous and vague fever, sometimes of a periodical intermittent; and this last is most frequently observed in the petechial and miliary eruptions, in

The last reason
for treating
them apart.

which it has very often been seen at first resembling an intermitting tertian. For which reasons, we thought it more advisable, immediately after enumerating the fevers, to treat of these diseases apart, as in their nature, progress, and symptoms, in no small degree differing from the former.

4. Therefore the fever in them seems to be a motion, more or less necessary, excited by that peculiar heterogeneous principle, which, as incapable of being borne by the nerves, heart, and arteries, ought to be secreted by all the fluids, and forced out to the skin; and nature employs that motion, when the natural circulation is not sufficient of itself to attempt, as it were, a critical excretion; the effect of which effort, however, by an almost invariable law of the system, must terminate in the skin only, whatever be the cause of this singular and uniform phenomenon. But if the noxious principle, which proved irritating to the system, when secreted by the febrile motion, should settle intirely upon the surface, and if it be not of a very malignant nature, it is easy to conceive that the fever ought to cease. On the other hand, if only part of it should be separated, and nature continue to be still irritated, or, if the poi-

The fever a contrivance of nature to free the system from a noxious principle.

Nature of the fever explained.

sonous and deleterious power of that heterogeneous principle should have infected the whole blood, or should have assimilated a great part of it to itself, it necessarily follows, that the fever, even after the eruption of pustules takes place, should continue, or return and remit at irregular periods, or, according as the virus is evolved, extricated, and occasions irritation, should now and then repeat its accessions, like intermitting fevers, and expel it at stated periods, and not depart before the whole mass of humours has been intirely purified: as will hereafter appear more clearly, when we come to treat of each of these eruptions.

5. But as the terms *malignant* and *benign* are very frequently employed to denote the different nature or character of most diseases,

Another division
of them into
mild and malignant.

and they also constitute a distinction of no small consequence in the exanthematic diseases, we cannot

omit another very proper division of these eruptive complaints into *benign* and *malignant*. Sau-

vages * considers those eruptions as

Sauvages's opi-
nion.

being malignant, which, with slight changes of the pulse, heat, and urine, come on insidiously, then of a sudden, and, contrary to expectation, manifest much feverer symptoms than could have been dreaded

from the state of the pulse. But the truth is, that other disorders, reckoned malignant, likewise are liable to the same anomalous phenomena. The same author distinguishes from the malignant, those in which the pulse, urine, and heat, are found as in good health, so that the patients scarcely seem at all feverish, while their strength is extremely reduced. He thought proper to name these *typhode*, not *malignant*. The malignant & typhode ones. Lastly, of the *malignant* or *typhode* ones he constitutes a third division of *pestilential* exanthemata, namely, such Pestilential. as prevail epidemically, and are so deleterious that they prove fatal in the majority of cases. He moreover observes, that a *malignant* differs from a *severe* (gravis) disease, on account of the latter being attended with severer symptoms, easily explicable by mechanical, evident, and intelligible causes; while the malignant disease exhibits symptoms which arise from hidden, poisonous, putrid, gangrenous, and colliquative causes.

* *Nosol.* cl. 3 ord. 1.

6. But, in my opinion, the exanthemata, distinguished by Sauvages into *malignant* and *typhode*, may be sufficiently Sauvages's distinctions canvassed. well comprehended under the single term *malignant*. For this has been done by seve-

ral others. But what I mean by this term, and what is now generally understood by it, I took an opportunity of explaining, when treating of fevers, supposing those to be malignant “ which steal upon the patient in an insidious and artful manner, under the appearance of a mild disease, immediately reducing the strength, without any manifest cause, injuring in particular the action of the nerves and heart, attended with symptoms of an unusual kind, repugnant with each other, and not a little foreign from the nature of the simple and pure disease *. I also illustrated the subject by examples, that nobody might allow himself to be deceived by the assumed appearance of benignity. And these marks ought to be understood as of the symptoms of malignity in general, and seem to belong particularly to fevers properly so called. And although they may, and do happen, also in exanthematic diseases, so as to point out their malignity just now explained; still there are certain other marks, as it were, peculiar to the exanthemata, by the presence or absence of which, with most authors, we are led to judge that they are to be considered as *benign* or *malignant*, using the term *malignant* in a sense somewhat different from the common acceptation. But among them a chief place is held by the fever preceding the eruption. In the benign exanthemata it is either intirely wanting, or, if

there be any, it is not violent, or of whatever kind it be, immediately on the eruption taking place, it is very much diminished; nay, the alarming symptoms intirely ceasing, with them the fever also disappears. On the other hand, in the malignant eruption, whatever kind of fever had preceded, it by no means, as in the others, becomes mild and ceases, but holds on; nay, though it may have been moderate before, it generally becomes worse, and very bad symptoms, as delirium, anxiety, tremors, rigors, spasms, convulsions, loss of strength, &c. supervene.

The principal
marks taken
from the fev.

* Vol. I. par. 53. and the notes subjoined there.

7. But with regard to what is universally said of the sudden loss of strength, as a pathognomic sign; although, when it does occur, it deserves the greatest attention, it does not uniformly happen in all malignant exanthematic complaints. For I have very often been surpris'd to observe them extremely pernicious, and quickly proving fatal, in patients whose strength was such that they could get out of bed without any labour, could stand, walk, pass their stools standing, and easily turn themselves in bed on both sides, like people in health. Hence it has been shewn, that there is not a more uniform and certain symptom of

A remark on loss
of strength as a
symptom.

malignity and danger in exanthematic diseases, than the continuance or aggravation of the fever after the appearance of the eruption. By this

A surer sign of malignity.

mark, then, I should wish the malignant exanthemata to be distinguished from the benign; nor have I any great objection to denominate all those eruptive complaints malignant, which

Those exanthematic diseases named by Sauvages *graves*, also malignant.

Sauvages names severe (*graves*) and dangerous, and which by others are commonly called malignant, with regard to their symptoms; for we here beg leave to employ the term *malignity*, not in its strict, but in its loose sense, and in some degree without precedent. But besides the benign and malignant exanthemata, there is a third kind, having neither intirely the benign marks, nor all those of the malignant disease, so as to leave it very doubtful to which of the two it belongs.

The exanthemata between benign and malignant.

This may be named *intermediate* species. But concerning the *pestilential* exanthemata, as Sauvages and others under this name comprehended the more pernicious and fatal epidemic exanthematic diseases, I need make no comment upon

The pestilential exanthemata sometimes sporadic.

them. I shall only observe, that, when they are sporadic, and arrive at the greatest degree of malignity

and danger, this name is suitable to them, as I have known it used by some, when they approach in a manner more nearly to the plague in fierceness and rapid tendency to death.

8. Lastly, the third division of these eruptions is into *regular*, or *ordinary*, and into

irregular, or *anomalous*. The first The exanthemata divided into *regular* and *irregular*.

of these are such as regularly succeed to a fever of the usual length, and which go through their stages attended with the usual and peculiar symptoms. The second are those, the eruption of which is extremely lingering, as they do not appear until after a long anomalous fever, protracted beyond the usual bounds several days, or even weeks, and are attended with unusual symptoms. Such irregular, or anomalous, attacks of the exanthemata, are observed to occur, particularly in certain epidemic diseases, although they are not wanting occasionally in sporadic ones, as has sometimes been observed. This more frequently happens in measles, small-pox, and the miliary eruption, and likewise sometimes in the scarlet eruption, and several other species. Hitherto I have been speaking of the principal distinctions of the exanthemata. It remains to say something of the prognostic marks in common to them. For there are certain symptoms in common to them from which

they may be foreseen before they break out, besides those peculiar to each particular species, which shall be mentioned when we come to treat of them individually. Many symptoms are enumerated by Morton*, which occur so frequently in small-pox, measles, and the scarlet eruption, that he considers them as pathognomic marks of these affections. Such are “weak, slow pulse; very quick, panting respiration; oppression and straitening of the hypochondria; pale, thin urine, or at least slightly tinged with redness, or turbid; a comatose affection of the brain, or obstinate watching; frequent subfultus tendinum; sometimes manifest spasms, and violent delirium; heaviness of the eye-lids, redness of the eyes, a painful pricking in them, and involuntary discharge of tears, so that the patient opens his eyes, or views the light, with much difficulty; a foreness in the throat, a wheezing hoarseness, a constantly troublesome and very violent cough.” It must not be supposed, however, that these occur all at the same time, or that they are common to all exanthematic complaints, but that they are occasionally wanting. This ought to be carefully attended to.

* *Oper. t. 2. exercit. 3. cap. 3.*

9. But of all the marks, the most frequent and common sign is asserted by Allen, from experience, to be, *great oppression at the breast*, conjoined with anxiety and restlessness, which however differs not a little from the straitening at the chest and difficulty of breathing attending peripneumony*. For it is principally distinguished by this, that it is not equally constant and uniform as in peripneumony, but occasionally remits, and, as it were, ceases, although it returns at intervals, and is aggravated without any manifest cause; but, if the disease be benign and pure, on the eruption taking place, it disappears, together with most of the other symptoms. Nor in it is the breath perceived to be warm, at least not so much so as in peripneumonic patients; nor is the pulse hard, as is the case in the inflammatory complaints, unless the disease be accidentally combined with inflammation. It, therefore, seems extremely probable, that that anxiety at the breast ought to be derived from a convulsive affection of the diaphragm, lungs, and muscles of the thorax, or from irritation of the epigastrium and hypochondres, occasioned by the exanthematic fomes more or less irritating the nerves and muscular fibres.

A more invariable sign mentioned by Allen.

* *Synops. univ. med.* P. 1. cap. 1. § 219. ed. Venet. 1762.

10. Likewise the nature of the pulse throws

no small light on the subject. For in most patients the motion of the arteries is found to be so various, that at different times it does not appear to be the same, but sometimes quick, sometimes flow, sometimes high, sometimes low, and occasionally irregular. Therefore, from this variety and frequent changing of the pulse, we derive the greatest advantage in foretelling the latent disease. Likewise the *coma vigil*, and *coma somnolentum*, are of the same import, as being present from the very beginning in these diseases; as well as watching, and a certain unusual and insurmountable propensity to remain awake, attended with some degree of confusion of mind. Nor ought we to forget the nausea, vomiting, and effort to vomit, which generally trouble the patients before the eruption, and prevent their either eating or drinking, ending on the appearance of the eruption. But if pain of the back and joints, and a particular feeling of torpor, contusion, and fracture, be added to these symptoms; if the voice becomes in some measure tremulous, and the hands, on being stretched out and moved, seem to tremble,

Nature of the pulse.

Frequent changing and variety in it.

Coma and pervigilium.

Nausea and vomiting.

Other symptoms of the approaching eruption.

the exanthematic nature of the complaint will appear much more evident.

11. Having delivered this brief exposition of the nature, distinctions, and symptoms of the exanthemata ; it remains to Their stages, or periods. make a few observations, not less ne-

cessary in my opinion than the former ones, concerning the periods, by which their whole course is distinguished, their causes and plan of cure. I shall, therefore, commence with the three periods which generally take place in every one of the exanthematic diseases. The first is that preceding the eruption, and in some measure paving the way for First stage.

it, which is distinguished by various denominations. By some it is named the *first period* ; by others, the *time of separation* ; by others, the *eruption fever*, or *febrile state* ; and, lastly, speaking of small-pox, or similar contagions, it is named by Boerhaave the *contagious state*, or, according to others, simply the *apparatus*. But it is of little moment in what manner we denominate this period, provided we understand by it that space of time which begins from the first attack of the fever, and lasts until the eruption appears. On the eruption appearing, another Second stage. stage commences, called that of the *eruption*, or *efflorescence*, which continues till

the eruption appears to vanish, or is resolved, and is succeeded by the *third stage*, to which the name of *exsiccation*, *desquamation*, or *resolution*, according to the nature of exanthema, is given. In small-pox the *third stage* is that in which the pustules are inflamed, and undergo suppuration; and, therefore, that stage is named by some *inflammatory*, or *suppuratory*. Hence in it the fourth place is claimed by the *exsiccation*, or *last period*. But more of this when we come to treat of each of them particularly.

Third stage.

The small-pox
has four stages,
not three.

12. With respect to the causes; these seem to be manifold, or at least to vary not a little according to the diversity of the exanthemata, and the patient's age, temperament, manner of life, and the climate: of which we shall speak particularly in the following chapters. I hold it undoubted, however, that in these diseases some acrid principle (4.) is either generated within the system, or is secreted on the surface, in its nature, force, and effects, different in each of them. For, in fact, although in all of them it constantly proceeds to the skin and teguments of the body, yet sometimes one, sometimes another seat is occupied by it, and thus a difference in the

Causes.

The seat va-
rious.

shape, size, and appearance of the spot or pustule, is occasioned in each. Thus one attacks the cutaneous vessels, another the corpus mucosum of Malpighi, another the cellular spaces or follicles; one gradually inflames the whole skin, another some particular part; one shews itself in diffused spots, another in separate and distinct ones; one breaks out thickly spread, another thinly. This one occasions minute echymoses, as it were, that one produces pustules, both in colour, size, and appearance, almost *sui generis*; this one forms small phlegmons, or blisters, or phlyctænæ, or tubercles, of a particular shape, according to the nature and shape of each (2.).

13. It is scarcely possible to say what plan of treatment in general is suitable in each of the exanthemata (11.), and ^{General plan of cure.} their different stages. Yet there are some general precepts by which we are instructed how to conduct ourselves. In any case where the presence of the exanthemata is suspected, if nature attempts the separation of the noxious and heterogeneous principle neither more violently nor languidly than is proper, it is better to wait and lie by than disturb her operations. Otherwise, it is proper, either to check it when immoderate, or excite it when too languid. But

if either plethora, or dyspepsy, or any other cause occur to impede or derange the motions of nature, we ought immediately to have recourse to art. It is likewise proper to counteract the acrimony by medicines calculated for the purpose, lest it should accelerate the fatal termination. We must also guard against all those things which check the appearing of the eruption, or may suppress it after it has already made its appearance, otherwise a most dangerous metastasis may take place. Hence we must use a moderately-diaphoretic regimen, until every noxious humour has been completely dissipated. But the means by which these things are to be effected, and the cautions which it is necessary to observe, I shall point out particularly when treating of the exanthemata about to be mentioned. It cannot, however, be too much inculcated, that calefacients, alexipharmacs, and too acrid and irritating means, are on the whole pernicious.

CHAPTER II.

OF ERYSIPELAS *.

14. I ALREADY spoke of erysipelas, when I was shewing in a general and brief manner its affinity to inflammation †. But it differs from real inflammation in such a manner that it ought rather to be called a *phlogosis*, or a spurious kind of inflammation ‡. Here, as it belongs to the febrile exanthematic complaints, we must treat of it somewhat more fully, as a knowledge of its proper treatment is a matter of no less consequence to medical men, than that of small-pox, measles, and the miliary eruption.

In what it differs
from actual in-
flammation.

* Synonyms. The *Rose* of Sennert, *De febr. l. 2. c. 15.* The *Erysipelatous fever* of Sydenham, p. 174. Of De Haën, *Febr. diu. vi.* The *Febris erysipelacea* of Hoffman, *Med. syst. t. iv. P. 1. cap. xiii.*

† *Comment. on Inflam. par. 9.*

‡ Platner, *Instit. chirurg. § 156.*; and Callisen, *Instit. chirurg. med. § 216.*

15. By this name is denoted a certain redness, generally a palish rose-colour; more rarely one of a purple, or livid yellow; sometimes a blackish red,

Description of
erysipelas.

which suddenly attacks the surface of the body here and there, causing a slight elevation, yet uniform and smooth, and diffusing itself extensively, without any circumscription of the space it occupies, or of its figure, and generally spreading rather with itching or heat, than great pain. But it is a peculiarity of the complaint, that on being compressed, a white mark is left in the part, which, however, on the pressure being removed, soon recovers its former colour and shining appearance.

16. *True and legitimate* erysipelas occurs when it is accompanied by all the marks just now enumerated. On the other hand, when

True and spurious
erysipelas.

it deviates from them, it is named *spurious*, or *bastard*. It deviates from the true nature of the complaint in various ways, but in particular when the skin is much swelled, and becomes so tense and red that it does not grow white on being pressed, or the swelling penetrates more deeply, and affects the parts lying under the skin; or when it is soft, and seems to contain a ferous fluid, in consequence of which it is rendered redder and more tense, and easily re-

The phlegmonic,
œdematous, and
scirrhus species.

tains the impression. That which takes place in the two former ways is generally named *phlegmonic*; while that occurring in the latter way is called *œdematous* *. To these kinds is added the *scir-*

rhous species, or that which shews the hardness of a scirrhus. But it is improperly so named; for it is either very far removed from scirrhus, or obtains this name in consequence of supervening on it; unless, along with Platner*, we name that kind *scirrhus* which has greater hardness than the others.

* L. c. § 158.

17. But if the redness (15.) be always confined to the same spot, without passing to another, it is named *fixed erysipelas*; The fixed and spreading kinds. and it is called *spreading* when it proceeds to different parts. Surgeons also name that species *simple*, which is attended with no severe or dangerous symptom; and *complicated*, when, on the contrary, it is livid in any part, becomes black and gangrenous; in which case it is likewise called *carbunculosum* and *gangrenous*; Simple erysipelas. although the former would be better named *benign*, and the latter *malignant*. Some, again, place among its varieties the *smooth* and *equal* kind, when it has no Smooth and irregular erysipelas. pustules or vesicles; and, on the other hand, it obtains the name of *tuberculous*, *rough*, *pustulous* or *miliary*, *vesicular* or *blistered*, when it is attended with tubercles, pustules, or blisters. But such distinctions seem almost useless and super-

fluous to those who distinguish the complaint into *benign or complicated*; or by whom they are considered as being only adapted to denote its different stages and various degrees of severity.

Benign & malignant erysipelas.

18. For, according to the various stages through which it passes in its course, its appearance also differs. At first it is in general moderately red, occupies a small space, and is attended with slight tension, itching, and pain. During the increase of the disease, it becomes of a deeper red, is more extensively diffused, and at the same time affects the patient with greater heat, tension, and pain. At the height of the complaint all these symptoms continue, and the skin very frequently becomes rough with small tubercles or blisters. As the complaint is going off, the redness at length disappears, the skin becomes smooth, and thus, the scarf-skin becoming dry, and falling off in scales, the complaint is resolved; or, on the other hand, terminates in supuration or gangrene*: although it is a very rare occurrence for erysipelas to terminate in supuration, unless it may have been of the *phlegmonic* kind. But when gangrene supervenes, very frequently its course is more rapid, and generally some vitiation of the fluids promotes its tendency that way. Sometimes, after the disease has been dif-

The various stages.

cussed, the part it occupied remains affected with a watery, white, and soft tumour, which happens in particular when the erysipelas has been of the *œdematous* kind; or the skin, when the congestion has been completely discussed, becomes hard, and rigid, which is the fourth termination the disease has; although that very seldom takes place.

* Astruc, *Tract. de tumor.* l. 2. c. 1.

19. But it seems to be attended with much more utility to divide erysipelas into *idiopathic, accidental, and symptomatic*; as such a division not only distinguishes its origin and nature, but contributes much to a proper method of cure. The primary, idiopathic, or essential species of the disease, breaks out spontaneously, and without being preceded by any other disease, and proceeds from a peculiar cause which is generated within the system, and inherent in the fluids. The *accidental* species, again, is defined to be that which does not proceed from an internal taint of the blood, or from vitiation of any of the fluids, but from a manifest and external cause, or rather is excited by it; as from the sun's heat, extreme cold, burning, the application of acrids, puncture, laceration, &c. although, to tell the truth, I do not consider it as inconsistent with reason to suppose,

Another more
useful division.

that in these cases also there is generally something which bears an affinity to a predisposing cause. Lastly, the *symptomatic* species depends on another disease, as when it supervenes on wounds, luxations, or fractures, ulcers, or acute fevers, malignant angina, scurvy, dropy, and œdematous swellings *.

* To this genus is referred by Callisen, (*Instit. chirurg. med.* p. 72.), the *phlegmonic*, *œdematous*, *scirrhus*, *herpetic*, and other species of erysipelas, which, as I have already observed, are referred by others to the *spurious* kind. The species which others refer to the *spurious erysipelas*, and Callisen to the *symptomatic*, Gorter (*Chirurg. repurg.* l. x. c. iv. §. 1422.) thinks ought to be ranked under the head of *erysipelas compositum*, as they are composed of a double, or manifold disease.

20. But erysipelas, according as it happens to be of this or that species, is either preceded or accompanied, or followed by fever *, as is proven by every day's experience. It likewise sometimes happens, that, when the complaint is very slight, as the *accidental* one generally proves to be, it is altogether absent from it †. The *idiopathic* kind is almost always preceded by fever, which oftener accompanies, or succeeds the *symptomatic* and *accidental* species, if they happen to be somewhat severe. But when it is the forerunner of an eruption, it begins and proceeds in nearly the following manner: At first the patient is sud-

Nature of the fever in it.

Symptoms preceding the eruption.

denly affected with cold, shivering, and remarkable rigor, shaking the whole body for some hours, with a small, frequent, contracted pulse, lassitude, loss of strength, a very troublesome weight about the *scrobiculus cordis*, gastrodynia, nausea, an inclination to vomit, nay vomiting, not only of the ingesta, but likewise of yellow bile; sometimes however without vomiting. By degrees, the trembling and rigor subside; the cold is succeeded by excessive heat, and the paleness of the face by flushing; there are present intense thirst, anxiety, difficulty of breathing, panting, a great propensity to sleep, with a high pulse, often a great, violent, hard, frequent one, perturbation of mind, sometimes delirium, imperfect speech, as happens in slight paralysis of the tongue. The fever is thus protracted, either always increasing, like the *epacmastica*, or like the *homotana*, or *acmastica*, observing the same degree, or occasionally being aggravated with new accessions, until the erysipelas appear intirely. Shortly, however, it breaks out towards the evening of the first day, or, as more frequently happens, of the second. It sometimes shews itself at the commencement of the fever; at other times on the third or fourth day † only, which is a more uncommon occurrence; it appears in some part of the body, which often is first affected with some pain, and is distinguished by the appearance of a shining red colour, which, e-

specially when the erysipelas is about to break out in the face, according to Le Roy ||, is seen about the nose.

* Hippocrat. *Epid.* l. 3. and Galen, *Comment.* 3. on the same, n. 27. p. 364. in 12mo. edit. where the following words of Hippocrates are to be found: “In many fevers, both before and after the fever, erysipelas took place.”

† Meza, (*Compend. med. pract.* fasc. 1. c. xvii. §. 156.), where he observes, “sometimes erysipelas arises without any fever,” &c. Richa asserts the same thing, (*Const. epid. Taur. alter.* 8.

‡ Van Swieten, § 593. on Boerhaave, mentions “his having seen erysipelas break out in a woman’s arm on the fifth day of the fever,” &c. I myself have also more than once had an opportunity of observing such a slow eruption of erysipelas in the legs.

|| Melang. p. 164.

21. So soon, then, as the redness appears on the skin, if the complaint is to turn out mild, the fever likewise begins to subside somewhat, and is gradually lessened as the erysipelas is forced out, disappearing along with the sleep, delirium, vomiting, and other symptoms. But if a more severe complaint is lurking in the system, or its whole force has not been carried to the surface, after a slight and short remission, the fever recurs, and new matter being propelled to the surface, it again becomes mild, and is resolved, the sweat

flowing in the mean time, and thick urine, depositing a sediment, being passed *.

For it is a very rare occurrence that the fever is prolonged beyond the

When and why
the fever is pro-
tracted.

complete eruption of the erysipelas, unless it be of the *phlegmonic*, *malignant*, or *gangrenous* kind.

In the former case, when the tumour is deeper seated, and does not grow white on being pressed,

and is harder in consequence of the congestion of blood, resolution can scarcely be expected;

and it therefore remains, that, in consequence of the inflammation being protracted, and slowly

formed into an abscess, the fever ought to be protracted like a symptom. In the

other, again, gangrene having begun, and the deleterious matter

A symptom of fu-
ture suppuration
or gangrene.

passing back into the blood, it is no wonder that the fever should not cease but with life. But

when the fever has regularly disappeared, the redness and pain of the part remain, but gra-

dually subside, till at length, on the seventh or ninth day, they altogether disappear, a furfura-

ceous desquamation of the scarf-skin afterwards taking place. In the epidemic ery-

sipelas which Richa † observed, an.

Termination of
the erysipelas.

1721, at Turin, frequently the swelling of the face, or some other part affected with the

complaint, beginning to subside, the bowels were disordered, and a gentle diarrhoea succeeding, the

complaint was resolved within a very few days. In not a few cases, at the beginning of the complaint, blood flowing from the nose restored the health. But the hemorrhage was preceded by hardness, pain, and swelling of the hypochondria, intense headach, or redness of the eyes, or tinnitus aurium.

* Platner, l. c. § 157. † *Const. epid. Turin. altera*, p. 8.

22. Almost every part of the body is liable to erysipelas, but especially the head, neck, arms, and legs, particularly to the idiopathic kind. When the head is affected with it, it frequently spreads over the forehead, eye-brows, nose, face, hairy scalp, and neck; and the parts are attacked with violent and lancinating pains. Nay, they sometimes become enormously swelled, so that the seat of the disease then appears deeper, and the skin itself becomes rough with pustules and vesicles. If it begins from one or other ear, it first excites great pain in the neighbouring parts, and then spreads to others; and, when it has reached the palpebræ, they become so inflamed with an œdematous tumour, as nearly to conceal the eyes from view. Sometimes, while it now seems to be deserting its former situation, making a new attack as it were, it suddenly falls upon the hairy scalp. Frequently the complaint prevails almost epidemically, at certain times of the year,

as was formerly remarked by Hippocrates *. But wherever it settles, it is attended with nearly the same symptoms which I have already described, and proceeds to its height, remits and departs in the same manner. If there be any difference, it intirely consists in the greater or lesser injury sustained by the functions peculiar to any part. It must also be carefully remembered, that from frequent observation it has appeared, if erysipelas be about to affect the lower joints, that the conglobate glands of the thigh, situate near the crural vessels, before the inflammation appears, are generally affected with slight pain and swelling; while the axillary and cervical ones become affected, if the complaint threatens to attack the arms, or upper parts of the body †.

* *Lib. 3. epid. text. 29.* where he says, “ In the spring, a great many were attacked with erysipelas, which lasted during the summer, till the commencement of autumn.”

† I suppose every body knows, that pain of the skin, laceration, excoriation, redness, inflammation, ulcers, pustules, and other cutaneous disorders, are succeeded by swellings of the lymphatic glands, which correspond with the affected limb, and are placed above the parts first affected. Those who know the beginning and course of the lymphatic veins are generally of opinion, that some pus, ichor, or other noxious fluid, is absorbed by the lymphatic veins, and carried to the conglobate glands, to which they lead, occasioning the swelling and pain in them: and they are certainly in the right. But when the glands swell, and are pained, before a fluid can be supplied from any part, from whence can the swelling and pain be derived? Do the arteries carry any

thing into the glands, before it reaches the skin, by which they are made to swell? Is irritation of the nerves and lymphatics alone sufficient? The vessels, which are truly lymphatic, are so irritable, according to Hewson (*Descript. of lymphat. syst.*), that by mere irritation they are rendered red, inflamed, and as tense as a cord.

23. All authors, both ancient and modern, agree that the surface of the skin is the seat of erysipelas. And this, they say, appears, 1. Because the skin, when examined, and torn from the fatty matter lying below it, is discovered to contain the whole disease; nor is any other part found swelled, pained, or tense, at least in the genuine and simple erysipelas. 2. Because, on gangrene supervening, it affects the surface of the skin merely; nor does it penetrate deeper, at least at first. 3. Because the redness disappears on pressure*. But what part of the skin is affected in particular, is not equally evident. For some suppose the affection to exist in the minute superficial vessels, impervious to the blood; others in the capillary vessels, through which the very fine halitus, vapour, or sweat escapes; others in the glands, or sebaceous follicles; others in the rete mucosum of Malpighi, and so forth†. But we can scarcely suppose the disease to exist in one of these parts without the others being affected by consent; such is their intimate connection and complication. Therefore, if a person pronounced both the red and

the colourless vessels, and the cellular membrane of the skin, and the rete mucosum, to be affected, he would approach nearer to the truth. For how can it happen, that, in consequence of pressure, the red should readily disappear, that it should often change its place, occasion phlyctænæ, or resemble an œdematous swelling, unless the cellular membrane, and the rete mucosum, by which the epidermis is connected with the cutis vera, were affected?

* Astruc. l. c. †. Callisen, l. c. p. 71. Platner, § 160.
Astruc. l. c. Gorter. l. c. § 1423.

24. Moreover, the pale and yellowish red colour, vanishing on pressure; the itching; acrid heat; the pain, which is rather pungent than stounding; the disease readily shifting its situation; the rising of blisters, such as are occasioned by fire; and the florid, frothy blood, scarcely cohering; all of which symptoms occur generally in the genuine and primary erysipelas, if I mistake not, sufficiently evince that its proximate cause is a *phlogosis*, caused by some thin, warm, acrid humour, very like that called by the ancients the bilious part of the blood, generated by some means internally, affecting first the nervous system, and next the head and arteries, in consequence of the febrile motion gradually separating from the other fluids, and forced

Its proximate
cause.

out to some part of the skin, or primarily fixed there, irritating and inflaming particularly the part where it lurks. And that it is so in fact. Platner * concludes from its never being concocted like the blood in true inflammation, nor being converted into laudable pus, but, unless it be dissipated, being rather changed into sanies, corroding the skin, and occasioning bad ulcers.

* L. c. § 160. Likewise Gorter. *Chirurg*, l. x. c. iv. § 1429, 1431.

25. But, if a congestion of that fluid occurs with abundance of serum, or with a quantity of coagulated blood, it will give rise to erysipelas, not of the simple and genuine kind, but of the *œdematous* and *phlegmonic* species. And the *scirrhus* kind will take place, if the cellular membrane and capillary vessels are filled with some sluggish matter, causing a degree of rigidity in the skin. But when the acrimony of the fluid has acquired such force as to deprive the nerves of their sensibility, and the vessels and fibres of their irritability, and to destroy them, as it were, with a poisonous power, *malignant* and *gangrenous* erysipelas will be the consequence. Others derive it from such a congestion of the fluid occurring, that the circulation in the part is intirely stopped by it; which, I do not deny, may occasionally happen from such a cause.

26. But there are many kinds of causes, which either prepare this humour (15.), or create, or excite it, and throw it into motion, or call it out to the surface, or fix it somewhere, or occasion its evolution. These are also called remote, or predisposing, or are partly inherent in the body itself, and partly applied to it externally. The chief of them are reckoned to be the sanguine, or choleric, temperament; a corpulent, or cachetic habit; bad-conditioned fluids; various acrimonies, particularly any oily, fat, and rancid one, both by itself and combined with the excrementitious matter of the other fluids of the body*; indigestion, especially proceeding from bile; abundance or agitation of the bile itself†; suppression of the menses, piles, or any usual evacuation of blood, and of the insensible perspiration; metastases; scurvy; dropfy; œdematous swellings of the legs; scirrhus; cancer; ulcers; acrid things taken into, or applied to the body; the abuse of spirits; immoderate exercise, dissolving the fat and raising the acrimony in the fluids; rough friction; the heat of the fire or sun; any kind of irritation of the fibres of the skin, both from an internal cause, as acrid lymph, and from an external one, as violent compression, or puncture; luxations; wounds; epispastics; the bites of insects; the application of a cold or warm body‡;

The more remote causes.

violent emotions of mind, particularly rage and terror || ; by which erysipelas is not only excited, but even occasionally returns, as it were periodically ; when it is named *periodical*.

* Platner, l. c. § 160. † Van Swiet. *Com.* § 723. ‡ Nicolas, *Manuel du Jeun. chirurg.* p. 343. || Platner, l. c. § 159. Callisen, l. c. p. 71.

THE PROGNOSIS.

27. Erysipelas is generally esteemed to be a complaint of little consequence ; but although it be often harmless and salutary, and terminate favourably, it is not always free from danger, nor to be treated altogether lightly. Nay, Hoffman * does not hesitate to compare it in many of its symptoms, and in its pernicious nature, to the pestilential fever itself. The simple, benign, fixed, and accidental species, and sometimes the symptomatic one, is attended with less danger than that which is combined, malignant, spreading, and primary. That which attacks the head, face, eye-lids, or neck, is generally esteemed to be bad † ; for generally the first is more severe, and sometimes affects the brain itself ; but the last affects the jugular veins and larynx in such a manner, and, as it were, binds them so as to interrupt the venous return and the freedom of re-

spiration. And the danger is still more serious if it arise from an internal cause, and be not resolved within seven or eight days: for suppuration may then be dreaded, or even gangrene, the approach of which last is indicated by sudden ceasing of the pain and redness, and by phlyctænæ arising on the surface of the skin †.

* *Med. syst.* tom. iv. sect. i. c. xiii. † Platner, l. c. § 161.

‡ Nicolas, l. c. p. 344.

28. Le Roy, however, differs in opinion from all other writers. For, trusting intirely to his own experience, he pronounces erysipelas of the face to be altogether Le Roy's opinion. benign and salutary, and says that it goes on like a favourable crisis, attaining its acme within three or four days; but that, on a full eruption breaking out, the fever and all the other symptoms are wonderfully diminished, and sometimes cease intirely; after which the redness and tumour are gradually disolved; and, lastly, a desquamation of the epidermis takes place*. On the other hand, he does not consider that one as equally harmless and critical, which attacks the legs, attended with acute fever, and which occurs in old men, or people with bad fluids, as it is very apt frequently to terminate in gangrene, or dangerous abscesses. But though this be generally the case, the same species of erysipelas of the face may

nevertheless sometimes pass into gangrene, as Sydenham informs us †, that every kind of erysipelas, whatever part it attacks, is liable to this fatal termination.

* Melang. *De physiq. et de med.* p. 164.

† Sect. vi. cap. vi. p. 322.

29. Generally that kind of erysipelas which is attended with a bad and dangerous fever, or is malignant, or partakes of the nature of phlegmon, or supervenes upon other bad diseases, is not free from danger, as it generally terminates in gangrene, or abscess. *Putrefaction*, or
Hippocrates's prognostics. *suppuration*, as Hippocrates observes *, arising from erysipelas, are unfavourable. Likewise, if the erysipelas is forced in, as not unfrequently happens, a fatal phrenitis, or peripneumony, and other dangerous diseases, are the consequences. Which Hippocrates had already observed, for he has written: “Erysipelas being forced inwards is a bad symptom; but when it is forced out from the internal parts, we may draw a favourable conclusion †.” But the author of the *Coacæ* ‡ has spoken much more decidedly. He observes: “Erysipelas externally situate is favourable; but its retiring inwards is a fatal symptom. The proof of which is, that when the redness disappears, anxiety and dyspnoea succeed.”

* Sect. vii. aph. 20. † Sect. vi. aph. 25. ‡ N. 366.

30. The striking in of erysipelas, however, is not always attended with danger, according to Van Swieten * ; although the observation of Sydenham, which he quotes, does not point out genuine erysipelas, nor seem to apply properly to its retiring inwards : but though it may sometimes happen that the erysipelas retiring, or being forced inwards, may be overcome by the vital powers, or again driven out ; yet such a metastasis ought to occasion apprehension, and to excite the physician's attention, that he may not be surpris'd by the sudden death of the patient when he is least expecting such a catastrophe. It likewise occasionally happens, that the fever, which attempts the eruption of erysipelas, is protracted for some time without attaining its end. In that case the erysipelatous matter being carried to the brain or lungs creates another kind of complaint, the danger of which is proportioned to the interior situation and importance of the part which is attacked by it.

The metastasis of
erysipelas.

* L. c.

THE CURE.

31. With respect to the cure, it ought to vary, according to the variety of the origin, nature, and violence of the complaint. In the genuine and primary erysipelas, succeeding to fevers, as nature, by the febrile motion, (which Hoffman *, Platner †, Le Roy ‡, Jaubert ||, and other writers of the greatest authority very properly suppose), attempts to free itself from some depraved and noxious humour, and is wholly bent on forcing it to the surface; it follows, that the physician, who is the coadjutor of nature, should direct his attention intirely to the same object, regulating that motion by the patient's strength, as either excess or defect of it would make him miss his aim. Let him, therefore, inquire whether bleeding, which generally affords the most immediate relief, be admissible. But authors

A difference of
opinion about
bleeding.

are by no means agreed concerning the propriety of it. Some, who consider erysipelas as actual inflammation, not only approve of bleeding, but even advise its being frequently repeated. Among these the principal is Astruc §, who advises the opening of a vein five or six times, to resolve primary erysi-

pelas ; nor would he be less profuse in the drawing of blood to discuss the secondary, or symptomatic, kind, if he did not think that that had already been done with a view to remove the primary complaint. Others, again, who make a distinction between phlegmon and erysipelas, supposing that in the latter the greatest tenuity of the blood is present, arising from some acrid and dissolving principle, reject venesection as hurtful ¶ ; or at least, if it be ever admitted, recommend the sparing use of it.

* L. c. † L. c. ‡ L. c. || *Mém. de la Société
Royal, de médic. année 1776, p. 529.* § *De tumor, l. 2. c. 1.
p. 69. edit. Venet.* ¶ Gorter, *Chirurg. repurgat. lib. 10.
c. 4. §. 1443.*

32. But while they are thus divided in opinion, I shall freely declare the mode in which I think we ought ^{When it is to be employed.} to proceed. If the fever, therefore, be very violent, if plethora be present, and retard the operations of nature ; if the patient be of the sanguine temperament ; if the pulse be found great, strong, and hard, accompanied with head-ach and difficulty of breathing ; immediately after the febrile shivering and rigor have given way to the heat, and before the appearance of the erysipelas, or before the completion of the eruption, we ought to relieve nature by means of bleeding, that the violence of the fever being in some mea-

ture allayed, and the cohesion of the blood being weakened, and its passages laid open, the acrid erysipelatous humour may more readily disengage itself, and pass outwards.

33. Nay, after bleeding, if the symptoms still continue urgent, or the eruption is slow of appearing, which often happens, the remedy must be repeated, particularly when the blood first drawn has exhibited the buffy coat. And this likewise must not be omitted, when the complaint has attacked the head, face, or neck, if the bleeding has not been already sufficiently employed; or when the complaint is of the phlegmonic kind, and neither the fever nor other symptoms remit after its eruption; for in that case it must be cautiously treated like actual inflammation.

When it ought to
be repeated.

34. On the other hand, when inanition is present, when the temperament and habit of body oppose it, when the fever is mild, and attended with no severe symptoms, or the vital powers are languid, accompanied with neither great nor strong pulse; or all the symptoms, on the appearance of the erysipelas, proceed more gently, or the erysipelas is slight, genuine, or accidental, or it is very *malignant*, *carbunculous*, or *necrotic*, or it is combined with malignant and putrid diseases, or with

When it ought to
be omitted.

confirmed scurvy, chachexy, and dropfy ; bleeding ought to be omitted as quite unnecessary, or avoided as hurtful and pernicious.

35. It is likewise of much consequence to attend carefully to the state of the blood when drawn. For if it appears florid, thin, bilious, and dissolved, it ought to be drawn sparingly ; but, if it appears otherwise, it may be let more sparingly. If also it may be conjectured, from the preceding symptoms, that acrimony of the blood predominates too much ; if the redness and heat are not great ; if the erysipelas appear frequently to shift its place ; if the urine is passed thin, crude, watery, or yellowish-coloured, and it deposits no sediment ; if the pulse is irregular, hard, but not full and strong ; the physician ought to be extremely careful in determining upon bleeding, lest he render the cause of the complaint worse, or check the critical efforts of the system, or occasion a metastasis to the internal parts.

The appearance of the blood when drawn to be considered, that we may not err in letting it.

36. Moreover, at the beginning of the disease, we ought to inquire carefully whether the *primæ viæ* abound with fordes, especially of the bilious kind, and whether or not the bowels are regular ; that the former may be occasionally evacuated, and the latter relaxed. Astruc * recommends emetics

How and when purging is to be used.

and cathartics, particularly in the species of erysipelas affecting the head and face. Le Roy also affirms, that emetics are useful when the patient is distressed with nausea and vomiting in the beginning of the complaint †. But, in the case of violent spasms being present, although a colluvies of bile and a putrid depravation of the fluids be present in the system, it will be better to promote vomiting by watery, tepid drink, sweetened with honey, than to have recourse to an acrid medicine, which would be extremely hurtful, especially if a fit of anger has been the remote cause of the disease ‡; but it will be better to relax the belly by injections, than irritate it by means of cathartics. Still, if the fordes in the alimentary canal seem to require any more active medicine; in that case, after bleeding, the belly ought to be purged by means of a decoction of tamarinds, or cream of tartar, or some neutral sal diluted with a great quantity of water, or a similar bland eccoprotic, before the eruption has made its appearance. For, on its breaking out, the belly must be purged with the utmost caution, and only when symptoms of a putrid and bilious colluvies are present, or the quantity of vitiated fluid seems to prolong the disease, or the necessity of occasioning revulsion from the head, when it is much affected, or swelled, requires speedy aid, and letting of blood cannot be sufficiently trusted to. Otherwise it might be appre-

hended that rashly purging the belly might derange the operations of nature, or drive the erysipelas inwards. But on its beginning to be resolved, and drawing to a termination, we may excite the belly more boldly, and, in this way, epicratically and gently purge off the remains of the morbid matter.

* L. c. † L. c. ‡ Hoffman. *Dissert. de medicina emetica, et purgante post iram veneno*, oper. T. vi. p. 291.

37. But the separation and excretion of the mucous fluid, which nature expels, ought likewise to be assisted by rest in the bed; by watery, cooling, and gently diaphoretic drink; to which, when the heat and motion of the blood, or intestines, are excessive, citron or melon juice, with a little sugar, may be added, or some vinegar and honey, which are more easily procured by the poorer classes. A decoction of barley proves diluent and correcting; an infusion of elder-berry flowers, or teil-tree, is very gently resolving, and promotes the sweat, particularly if taken lukewarm. When the erysipelatous heat and fever abate, and the sweat begins to flow, we must cause its universal diffusion, which is best effected by means of warm drink, by rest, and cautiously increasing the number of bed-cloaths. And the

How the eruption ought to be supported.

action of these must be kept up by weak, fluid, and cooling diet.

38. Many external applications are proposed by writers, particularly surgeons; but most of them appear to me, if not hurtful, at least superfluous. It is generally suffi-

The topical applications.

cient to defend the part from cold, or the contact of the air, as well as from things which are too warm. Thus the humour is gradually resolved, and passes through the pores of the skin. If there is a severe pain in the part, it must be fomented with rags dipped in warm aqua spermatis ranarum, or a decoction of elderberry flowers, or mallows, and occasionally renewed when they become cold or dry. If there be more occasion for demulcent remedies, some new milk may be advantageously mixed with the decoction. If the redness and heat are very urgent, especially when the disease is of long standing, and difficultly discussed, in place of the milk some of the best vinegar is added, which checks the heat, and proves more powerfully resolving. Nevertheless, if the

When incisions are to be made.

erysipelas is not diminished on the seventh, eighth, ninth, or tenth day, and there is reason to apprehend the approach of mortification, on account of the excessive fulness and distension of the skin, some advise having recourse to frequent incisions; which will be still

more necessary, if its colour has begun to change to purple or livid.

39. In the phlegmonic erysipelas, if resolving means, repeated bleeding, purging, and the other remedies, prove unsuccessful, we must wait for the arrival of sup-
How the suppuration is to be treated.
 puration. That this has already taken place, is indicated by throbbing pain, and manifest swelling in a particular part, and a continuance of the exacerbation and remission of the fever. When it happens, poultices made of bread, and of the leaves of mallows boiled in milk, must be applied to the part, until, an evident fluctuation of pus taking place, the abscess may be opened by the lancet; in which case the remainder of the cure ought to be intrusted to the surgeon. The whole business, also, ought to be left to him when the pustules on the surface, or external suppuration, have degenerated into a troublesome and obstinate ulcer. But while we attend to the external cure, and the ulcer becomes cleaner, and dries, we must not at the same time neglect the internal means to be employed, according to the various causes of the disease.

40. In the œdematous erysipelas, it will be sufficient to foment the part simply with a decoction of elder-berry flowers, and chamomile. But if the

Cure of the œdematous erysipelas.

presence of excessive laxity be suspected, we may add to it a small quantity of camphor ; or, lastly, bags, containing the flour of beans, or barley, warm ; or the powder of elder-berry flowers may be applied to the part. Likewise lime-water proves remarkably discussing and resolving. But we must proceed slowly to resolving and repressing means ; for, if the disease be discussed too soon, it runs the risk of being forced inwards, to the imminent hazard of the patient. On which account it is proper to avoid cold, astringent remedies, or such as obstruct the pores of the skin, although generally recommended by authors. But if they may be ever admitted with propriety, it will be only when the erysipelas has gone through its different stages, and mere atony and laxity of the parts remain.

41. But if the fluid, which occasions erysipelas, be very acrid, and almost of a poisonous nature, occasioning a livid or black colour in the parts, or giving rise to black-coloured phlyctænæ, pointing out the approach of gangrene, as sometimes happens within a few hours in the *malignant* and *carbunculous* species, we must then, with all manner of dispatch, open a passage for the poisonous fluid by scarifications*, employing, both internally and externally, alexipharmacs and antiseptics, the chief of which are Peruvian bark, snake-root, cam-

Cure of the malignant species.

phor, spiritus Mindereri, the London elixir of vitriol, and resinous balsamic remedies externally. But in this case, likewise, the treatment of the complaint is more properly the province of the surgeon.

* Not only in the *malignant* and *carbunculous* species of erysipelas are scarifications indicated, but also in that where the skin is oppressed with the load, and becomes swollen. Freind (*Hist. med. ed. p. 29.*) recommends them as the remedy affording more immediate relief; his words are: "In erysipelas particularly, but in other cases likewise, where inflammation is present, we learn from experience, that, by scarification of the part, when the membranes, oppressed with their load, appear thickened, the complaint frequently intirely disappears with amazing rapidity."

42. The plan to be adopted with respect to the *accidental* species of the complaint, will appear readily from what has already been said. In general

Cure of the accidental & symptomatic kind.

it is necessary to remove the causes, and gently to discuss and assuage the phlogosis arising from them, which being but slight, is more easily resolved. It is scarcely necessary to say any thing concerning the *symptomatic* species, as its cure intirely depends on the removal of the primary complaint. Erysipelas, when it strikes in, as not unfrequently happens, requires bleeding, both dry and wet cupping-glasses, epispastics, blisters, fomentations, the bath, diaphoretics, and, if these do not prove serviceable, and call forth the eruption, likewise cathartics.

43. It often happens, that those who have once had an attack of erysipelas on any slight occasion

The prophylaxis. are liable to a relapse of it, and that this happens as it were periodically.

Many means are proposed by different people to prevent its recurrence. It is necessary, however, to inquire into the particular remote causes of each species of the complaint; on ascertaining which, it is not very difficult to decide upon the proper preventatives. In general, antiphlogistic and cooling means, especially whey, the juice of succory, fumitory, taraxacum, nasturtium aquaticum (nose-smart), medicated waters, bathing in fresh-river water, and, above all, refrigerant cathartics occasionally repeated, are preferable to all other remedies. Also cauteries, fetons, and other running ulcers, have been known to prove of material service. After the complaint being removed, the legs generally remain still liable to an œdematous swelling. We guard against this mischief by means of coverings made of hemp-cloth, or dog's skin properly prepared, and exactly adapted to the naked legs when swelled in the morning, to support and strengthen the relaxed parts; by diuretics and hydrogogues, to occasion revulsion and derivation of the humours; and, by means of discussing and strengthening topical applications, to correct the atony. I know

How to cure the œdematous swelling that remains.

physicians and surgeons, men in other respects not ignorant of their profession, who highly disapprove of the coverings for the legs already mentioned. But, with submission to them, when an œdematous swelling of the legs arises from this cause only, and does not depend on a bad state of the whole body, whatever be their apprehension, it merits no regard, as I never knew any bad consequence to result from their use.

CHAPTER III.

OF THE IGNIS SACER, CALLED ZOSTER, OR ZONA *.

44. THERE is a kind of eruption, affecting the external parts of the body, sometimes conjoined with fever or succeeding it, and very little known, which, on account of some authors supposing it to have a great resemblance to erysipelas, and ranking it among the exanthematic febrile diseases, can by no means be passed over in this place. But the ancients have treated of it with such obscurity and brevity, that it may be still disputed,

whether or not it was really known to them. We must, perhaps, except Pliny, who, although very briefly, makes mention of a species of the *ignis sacer*, called *zoster*, or *zona*, having a great resemblance to the present disease †. But Celsus ‡ has described two species of the *ignis sacer*, the first of which is esteemed by Gorter to be the same as the *erysipelas bullosum* ||, but the latter the same as the *erysipelas ulcerosum* §; nor does Lommius ¶ disagree with Gorter, who seems to class this *ignis sacer*, along with Celsus **, among the bad ulcers. Hoffman also is of this opinion ††, that that disease is referable to a peculiar kind of erysipelas, and Lorry ‡‡, induced by the authority of Galen |||, has adopted the same opinion. Many, as Gorter himself confesses, are of opinion, that it ought to be classed among the different species of herpes, and some of them, as Plater §§ and Tulpius ¶¶ do not hesitate to refer it to the species of herpes called *esthiomenos* or *exedens*. Nor does Platner *** differ in opinion from them, as he has written, that “that rare disease, called by the ancients *zoster*, *zona*, or herpes, may be referred to erysipelas.” But De Haën, who asserts, that he has frequently seen it, as it is here described, in Holland, and once also at Vienna, intirely doubts its having been known to the ancients, and distinguished by a particular name; or that it is really

to be considered as the disease commonly called *ignis sacer*, or St Anthony's fire, contending with reason, as I think †††, that the true meaning of these words does not appear to be sufficiently known †††.

* ζωστήρ, or ζώνη, in Greek; cingulum, or fascia, in Latin.

† *Nat. hist.* l. 26. c. 11. where he observes: "There are several kinds of *ignis sacer*; among the rest is that which surrounds the patient in the middle, named *zoster*, and which proves fatal, if it surrounds him."

‡ L. 5. c. 28. § 4.

|| *Chirurg. repurg.* § 1420.

§ Ib. § 1421.

¶ *Obs. med.* l. 2. *De vitiis, quæ non cert. part. aliq. sed. variam occupant.* where he observes: "But when the erysipelas is attended with ulcers, which is properly called *ignis sacer*, sometimes the surface of the skin is affected," &c.

** L. c.

†† *Oper. omn.* T. 4. p. 1. sect. 1. c. xiii. § 6.

‡‡ *De morb. cutan.* P. i. sect. ii. c. i. art. ii. *De sacro igne, et zona sacri ignis specie*, p. 401.

||| *Ibid.*

§§ *Oper. omn.* T. ii. p. 23. where it is described under the name of *macula lata*, or *papula fera*.

¶¶ *Obs. med.* l. iii. c. xlv, where the name of *exedens præcordia herpes* is bestowed on it.

*** *Inst. chir. rat.* § 166.

††† *Thes. de Febr.* divis. vi. § 7. p. 3.

‡‡‡ Concerning *St Anthony's fire*, the worst kind of *ignis sacer*, a most complete treatise may be consulted in the *Mem. de la Société Royale, de Médecine*, vol. vi. p. 260, in which it is determined by four celebrated men, Jussieu, Paulet, Saillant, and Tessier,

that that disease is the *dry gangrene*, or *Necrosis* of Savages, sometimes also the humid one of Quesnay, as has been shewn by various examples and histories adduced from different quarters.

45. But the true nature of this affection, and the diagnostic marks, by which it is distinguished from similar diseases, will best appear, first by briefly adducing one or two histories of the complaint given by others, and next by placing before the eyes of my readers a fuller description, collecting together all the phenomena which I myself have had an opportunity of observing. “A

An observation
of Tulpus.

man of full habit of body, and warm liver, was seized with a violent pain about the præcordia, accompanied with smart itching, and thick clusters of pustules, at first red, soon growing white, and a black crust appearing on each of them; which being separated by a proper liniment, each of them degenerated into a wet ulcer, attended with acrid pain, and a flow of sweat, and such a violent striking in of the purulent matter, that fainting was frequently occasioned, as if the mind itself had been affected by some contagious pestilence *.”

* Ex Tulpio Hoffman, l. c. observ. vi. on epicr. p. 104. edit. Genev.

46. After Tulpus, Hoffman * makes the following observation. “A distinguished professor,

upwards of fifty years of age, who had been frequently attacked with a scorbutic purple fever, after exposure to great cold, was affected with sudden languor, restlessness, want of sleep and appetite, shivering and heat, to which was added a certain degree of mental derangement. These symptoms lasted nearly three days, which being elapsed, on the preceding night he felt an insufferable pain in the region of the præcordia, extending all the way to the back. On inspecting the part in the morning, there appeared an unusual eruption, namely, a red area, extending like a belt from the præcordia to the back, crowded with pustules, partly white, and partly of a blackish red. Afterwards an abatement of the symptoms took place, excepting an exquisitely acute pain, so intense as to deprive him of sleep, and not to suffer the part affected being touched. The physicians who were called in could not tell what to make of the case, but supposed it to be a peculiar kind of purple fever, or some kind of scorbutic eruption. But I immediately recognised in it a bad species of erysipelas, and employed internally gentle diaphoretics, and externally, towards the end of the complaint, oil of eggs, and after using it the pain was allayed within a fortnight, the pustules dried, the cuticle becoming rough, cracked, and falling off in scales."

An observation of
Hoffman.

* L. c. observ. vi.

De Haën, who had frequently seen this disease among the Dutch, observes * : “ Once I had an opportunity, at Vienna, of shewing it to my pupils, contrary to what had ever happened to me before, in the face alone. For formerly, as far as I have been taught by numerous cases of the disease, only one side of the abdomen, after a fever, not unfrequently pretty violent, on the first, second, or third day was covered with red spots, soon acquiring great magnitude, and accompanied with pain, resembling large distinct, varicellous pustules, but more raised, and clustered together in different parts, leaving great interstices between them : with this remarkable characteristic, that on the anterior part of the body they never passed the linea alba, nor on the back the spine. Moreover, in the distance between the linea alba and the spine of the back, are sometimes observed a few insulated clusters of pustules, at other times many, sometimes, also, in such a manner, that a zone, a span in breadth, with only a few discontinuations, surrounds the middle of the body. A person at Vienna affected with toothach, had the tooth extracted, in consequence of which he was cured of the pain, but complained of the air entering into the empty space left by the tooth. This is all that I could learn to

De Haën's observation.

have preceded the complaint : But I am intirely at a loss to determine whether or not it favoured the production of the subsequent disease. Afterwards there arose a tubercle in the middle of the forehead, and three days after it was succeeded by a fever, attended with shivering and a swelling of the left side of the forehead, eye-lids, and cheek of the same side ; and then the pustules, such as I have above described, exactly filled all the parts already mentioned, but by no means extended beyond the middle line of the face.”

* L. c. p. 112. 113.

48. From what has already been said (45. 46. 47.), I think it is sufficiently clear, that by the name *Zona* is to be understood, a particular eruption, which, on breaking out, exhibits clusters of pustules, very painful and red, disposed in such a manner as to surround the body for some finger-breadths, like a girdle. But that we may attain more ample knowledge of this rarely-described exanthematic disease, I hope I shall gratify my readers by amassing not only all the facts which others have delivered concerning it, but such as I myself have frequently observed in the course of my practice. The eruption is generally preceded by some de-

What ought to be understood by the name of *Zona*.

The description
and symptoms. gree of fever, accompanied with shivering, at one time of short continuance, at another longer, sometimes lighter, sometimes more severe. It is sometimes accompanied by severe symptoms, as delirium *, watching, anxiety, restlessness, tossing of the body, vomiting †, and the other phenomena peculiar to the febrile eruptions. Sometimes it is slight, scarcely accelerating the pulse, and manifesting itself at night only by heat, want of sleep, thirst, and restlessness. Sometimes it is altogether absent, or does not seem to be present ‡, or in the evening supervenes on pain and suppuration of the pustules, in a very slight degree, and disappearing in the morning.

* Hoffm. l. c. Platner, l. c. De Haën, l. c. § 166.

† Hoffm. *ib.*

‡ Geoffroy, *Hist. de la Soc. Royale de Médec. an 1777 et 1778*, T. 2. *Mém.* p. 27.

49. When the fever precedes the eruption, on the latter making its appearance, which generally happens in one or two days, it immediately ceases, unless, as very rarely happens, the violence of the disease is such, and such the degree of the inflammatory diathesis, that it proceeds to rage beyond that period. The patients, however, be-

The fever ceases
on the eruption
appearing.

fore the eruption, even when preceded by no fever, complain for several days of being unwell, and feel a most troublesome sensation of pricking in the part in which the eruption is about to take place. Next breaks out an eruption of small, elevated, red pustules, The pustules in clusters. sometimes very like those in small-pox, having an inflamed circle, and being partly distinct, partly clustered, and resembling phlyctænæ, more or less copious, accompanied with lancinating, and sometimes intolerable pains, and fiery heat.

50. These pustules (49.) gradually increase in bulk, and vesicles, or ampullæ, full of a pellucid water, and transparent, such as boiling water raises, are formed on Progress of the pustules. their apex. By degrees the water which they contain becomes turbid and opaque. The vesicles either burst, or become flat and rough, acquiring a brown or black colour, on account of mortification of the skin, and are changed into small eschars. At last the eschars become dry, and pass into Drying of them. hard black crusts, which quickly fall off, but, like the confluent small-pox, leave a deep pit. Frequently, however, this eruption takes place several times successively, and, in like manner, successively dries and falls off*. Sometimes the pustules undergo suppuration, and spontaneously

open, continuing to pour out pus for three, four, nay sometimes even fourteen days †. The pain itself sometimes does not abate for a fortnight, and then, the pustules drying, the epidermis cracks, becomes rough, and a desquamation takes place ‡: but even then sometimes the pain does not altogether cease ||.

* Geoffroy, l. c. † De Haën, l. c. p. 114. ‡ Hoffm. l. c. obs. vi. || Geoffroy, l. c.

51. Most writers consider the abdominal or hypochondriac region as the seat of the disease.

Its usual seats.

Others place it above the umbilicus *, making it surround the middle of the body from the præcordial region to the back, forming a circle generally of some finger-breadths, filled with acrid burning pustules, attended with most intense pain. Others tell us, that in this affection the skin becomes rough, red, and much corroded by means of livid pustules, extending from the umbilicus all the way to the knees †. But this is not invariably the case; for I have more than once seen the breast, back, scapulæ, arms, and legs, attacked with this eruption: nay, we learn from De Haën (47.), that the forehead is not always exempt from the disease. It is considered as a mark almost peculiar to the disease ‡, that the clusters of pustules extending transversely, like a zone or girdle, ne-

ver pass the *linea alba* anteriorly, nor the spine of the back posteriorly. Hence they affirm, that only one side of the body is affected, such as one shoulder or thigh, or one side of the breast; in which case the pustules begin at the spine, and terminate in the sternum, without exceeding those bounds, in such a manner that only one hemisphere is attacked, and not the other ||. But whether the zoster uniformly observes this law, and always resembles a zone, I shall not take upon me to determine. This only is certain, that the pustules appear in clusters, and are often scattered thinly, without observing any exact order.

* Hoffm. l. c. § 7. † Platner, l. c. § 166. ‡ De
 Haën, l. c. Geoffroy, l. c. || Geoffroy, l. c.

52. From the faithful description of the disease which I have already delivered, every one, I presume, will discover by what marks it is to be distinguished from erysipelas, both simple and *bullous*, and likewise from herpes, particularly the species called *exedens* (44.). In erysipelas, a rose-coloured red, not raised above the surface, first appears; in the zona, on the contrary, elevated and deep-seated pustules break out, and seem to be the primary phenomenon; but the pustules and phlyctænæ, which are conjoined with the erysipe-

How it differs
 from erysipelas.

las bullosum, supervene upon it at its height ; while in zona they appear at the beginning. Moreover, the seat of erysipelas is confined to the surface, while that of the zona is deeper ; for it is evident, that not only the whole skin, but also the adipose membrane lying under it, is affected, inflamed, and suppurates. There is likewise no small distinction between *erysipelas ulceratum* and the zona. In the former, the ulcers extend farther and remain long ; in the latter, if they ever take place, they are small, circumscribed, hollow, and quickly curable, and are changed into dry eschars. Herpes, again, generally has much smaller and milder pustules, neither so painful and inflamed, nor are they arranged in the shape of a girdle : and if it ever appears to be of the species called *exedens*, it exhibits bad, corroding ulcers, like cancerous ones, of long continuance ; while the zoster is generally an acute disease, and of short continuance. For although Lorry * is of opinion, that it is both chronic and occasionally epidemic, which perhaps may be allowed of the ignis sacer, taken in an extensive sense, yet I have not seen an instance of this species being chronic, excepting in an old woman, who was exceedingly distressed for several months with pustules under the left shoulder-blade, attended with excessive pain and heat.

Whether it be
sometimes a
chronic disease.

* Lorry.

† *Ibid.*

53. The fiery heat, pricking, and pain attending the small phlegmons, together with their easily passing into phlyctænæ and small gangrenes, shew that the material The material cause. cause is not of a simple, bilious, or salt nature, nor only sanguineous and phlegmonic, but caustic, acrid, burning and partaking of putrefaction, which, as soon as it is evolved, irritating the nervous system, deranges the whole animal economy * ; but, when carried outwards, and fixed in some particular part, inflames, corrodes, and almost burns particularly the cutaneous nerves, vessels, and the cellular membrane. Lorry discovers in it a various disposition, different from the erysipelatous and bilious one †, yet consisting of fordes in the first passages, vitiated fluids, and retention of the insensible respiration. It is remotely occasioned by a bad habit of body, by a scorbutic, arthritic, or The remote causes. similar dyscrasy; by acrid, salted, highly-seasoned food, and by vinous fermented liquor.

* Hoffm. l. c. † L. c.

PROGNOSIS.

54. Lorry and Geoffroy affirm that this species of eruption is never dangerous or deadly, on account of its having been treated always successfully. But

Pliny has said that the zona proves fatal if it surround the whole body. Lang * has shewn it to be fatal in the case of two noblemen; one of whom died of it, while the other, being affected from his loins to his knees with this eruption, and the fever being attended with delirium, escaped the violence of the disease by having a vein opened in each foot, and employing other remedies to check the fever. "But," according to Hoffman, "the most malignant of all is that which takes place after great languor, in old people, particularly those with bad fluids, sometimes likewise in malignant and pestilential fevers, and which breaks out under the nipple, and in the region of the heart, or even in the hands, and other exquisitely sensible parts, shortly becoming livid, lastly black, and speedily succeeded by death, as was the case with that of Plater." Nor, does Platner consider it as being void of danger †. In general, however, though it be a severe and tormenting complaint, it is free from danger; for I have not hitherto heard of any one dying of it. It is likewise probable, that the danger which is threatened proceeds from the mismanagement of the disease, or from a sudden metastasis to the internal parts, particularly if the brain or lungs be attacked ‡.

* Hoffm. ex Lang. (*Epist. medicin.* p. 110.) in *epicr. ad observ.* vi. † L. c. ‡ Platner, l. c.

THE CURE.

55. As in this disease the caustic and deleterious matter, by means of the vital powers, is carried to the surface, and the complaint in some measure resembles a kind of critical excretion, this salutary and beneficial effort of nature ought on no account to be disturbed. We should, therefore, by all means second it with caution. Hence it will be better to blunt the acrimony of the fluids by diluents and correctives, and to draw it to the part to which nature directs it, by the mildest diaphoretics. This end will be sufficiently attained by the patients drinking an infusion of borage or elder-berry flowers, with nitre or oxymel, by the purest whey, emulsions of melon-seeds, the decoction of barley, or scorzonera-root, provided they be taken in sufficient quantity, and lukewarm. But if the matter seem forced to the skin too slowly, we may add to the drink some antimonial wine, or roob of elder-berries, that it may be gradually excited to action. There is seldom occasion to have recourse to bleeding *. But if the fever be very violent, or, even on the eruption taking place, it do not remit; if

Diluents.

Bleeding rarely to be employed.

the pulse be strong, full, and hard ; the respiration anxious ; the face red ; the head pained ; and what degree of delirium is present do not cease ; or if the part, on which the force of the disease has fallen, be too swollen and tense, and affected with excessive pain ;—in that case there will be room, not only for bleeding, but likewise for the other antiphlogistic remedies †. Geoffroy, however, confesses that the violent and excruciating pain receives little alleviation from bleeding, as, even after the disease has been resolved, it continues for some time to be occasionally felt. De Haën, having in view the inflammatory diathesis of the disease, without hesitation asserts, that bleeding and the antiphlogistic regimen afford the most certain relief. But it is safer not to have such immediate recourse to bleeding, unless the indications already mentioned point out its indispensable necessity. For it is frequently omitted, without injury, as being quite superfluous. I remember, however, to have employed it with advantage when the disease affected one side of the breast, along the ribs, and, like pleurisy, occasioned such torture as to interrupt the respiration.

* Geoffroy, l. c. † De Haën, l. c.

56. Perhaps when it may either appear unsafe to open a vein, lest the matter be forced in, or

at least by no means necessary, yet something must be done to relieve the pain, which is very troublesome; the application of leeches, or of a wet cupping-glass, will open a passage for the stagnant and irritating humour, and prevent distension of the nerves, which I myself have sometimes tried, not only without injury, but with advantage, as in other cutaneous exanthematic diseases. Likewise, for allaying the pain and anxiety, it will be proper occasionally to have recourse to soporifics, and mild pargorics, while we wait until the violence of the disease intirely subsides.

Leeches and cupping-glasses.

Soporific remedies.

Purging to be used cautiously.

Topical remedies.

57. Nor must the motion of nature be disturbed by purging the belly, lest of a metastasis taking place to the internal parts. It may be relaxed, however, by very gentle and repeated injections, to remove whatever fomes may be contained in the *primæ viæ*. In the mean time we are not to omit the external application of such remedies as prove emollient, blunt the pain, and promote the perspiration. Fomentations, therefore, and the softest cataplasms, will prove serviceable. The part may be fomented with a decoction of elder-berry flowers, and mallows, tepid milk, whey, and such like

things, frequently repeated, and moderately warm. Likewise the cataplasms may be composed of bread and mallows boiled in milk. Sometimes a solution of the mucilage of gum-arabic is very well calculated for alleviating the pain. Nor must we desist from these means although the pustules have become dry, especially if the parts be still somewhat rigid, until they recover their softness. The cerate of Galen, recently prepared, is said to assuage the pain * ; but I am disposed to consider those things as hurtful which dry and repress the humidity of the pustules, as well as preparations of lead : while I look on the oil recently expressed from yolks of eggs, with which Hoffman † advises the pustules and eschars to be anointed towards the end of the disease, to be quite harmless. After they have fallen off, and when the disease is now nearly removed, the belly must at length be purged by some proper medicine.

* Geoffroy, l. c.

† Hoffm. l. c. obs. vi.

CHAPTER IV.

CONCERNING THE SCARLET FEVER*.

58. There is a much greater resemblance between erysipelas and scarlet fever, which is an eruption, named from its scarlet colour, affecting almost the whole surface of the skin with bright red spots, of various forms, and shortly extending in breadth. Sometimes those spots are so enlarged in every direction, as to become confluent, and cover the whole surface, like an universal erysipelas. But in whatever manner that colour affects the skin, whether sparsely or universally, it is plain and smooth, not rough; and when pressed, especially at first, it becomes white, although, on removing the pressure, it shortly recovers its former colour; nor does it raise the skin much †. In which respects, indeed, it bears a great resemblance to erysipelas, but differs from it in the first appearance of the eruption, in the nature of the fever, and in certain symptoms, in its termination and successively returning, as will immediately appear from its history. But as there

Origin of the
name.

are two principal species of it, namely the *benign* and *malignant*, I shall first describe the one, and then the other, to distinguish them properly.

* The *Purpura et rubores* of Forest, *Observ.* l. vii. obs. 59. in *schol* The *Febris scarlatina* of Sydenham, *Oper. med.* sect. vi. c. 2. and of other authors. The *Rossalia* of Hoffman, *De febr.* sect. i. c. viii. § 3. The *Febris rubra* of some writers. The *Rubeola veterum* of Gruner, *Morb. antiq.* p. 62. 63.

† Heister's *Compend. med.* c. iii. sect. vi. p. 34.

THE BENIGN SCARLET FEVER.

59. This disease appears at any period, but more frequently, according to Sydenham *, in the beginning of autumn, or, as Its description. Juncker † rather supposes, in the summer season. It rarely prevails sporadically, generally appearing as an epidemic, and often attacking whole families. It is chiefly hostile to young people and children, though at the same time it does not spare adults. It commonly begins with fever, like the other exanthematic diseases, but frequently the scarlet eruption makes its appearance before the presence of any fever is perceived ‡ ; but it generally observes the type of a remittent, every evening repeating its accessions, and suffering an aggravation ||. It sometimes remits in such a manner as to seem to intermit, or

in fact assumes the nature of a real intermitting quotidian §. It is, therefore, not surprising that it is generally named from the fever.

* *Oper. omn. sect. vi. cap 2.* † *Tabul. lxxv.* ‡ Heister, l. c. || Vogel, *de cognosc. et curand. morb.* § 151. et. seq. § Andr. Bernard. Kirchvogel, *Diar. med. pract.* cap. iii. p. 29. Edit. Vindob. 1771.

60. The fever begins with gentle shivering or cold. This is succeeded in general by mild heat, moderate thirst, pain in the throat, or a certain degree of violent heat, and loss of strength. In the mean time, some oppression of the chest supervenes, rendering the respiration difficult and irregular, together with a vertiginous heaviness of the head, or an acute headach, and sometimes a dry cough, but not so troublesome nor so constant as in measles *. With these symptoms frequently are conjoined nausea, vomiting, and epistaxis †, but the latter happens oftener in plethoric patients during the eruption ‡ than before it. Sometimes coma, or epilectic convulsions, or eclampsia, especially in boys, precede or accompany the eruption at the beginning ||. On the second or third day §, nay, sometimes on the fourth, the face swells, becomes quite ¶ covered with a great number of bright red spots, at first small, and of various forms, shortly becoming broader and confluent, and gradually extending

Symptoms preceding the eruption.

The eruption.

over a greater space. Next, the same kind of spots break out on the back, breast, and lastly on the joints, of considerable breath, and shortly rendering almost the whole skin of a scarlet colour **. Then also the fingers become so swelled, or tense, that they cannot be bent but with difficulty ††. In the mean time, however, the fomes of the disease being forced outwards, the fever and all the symptoms are remarkably relieved, or disappear intirely.

* Juncker, *Tab. cit.* † Vogel, l. c. ‡ Juncker, l. c.
 ¶ Vogel, l. c. *et* Sydenh. l. c. § Vogel, l. c. ¶ Juncker, l. c.
 ** *Id. ib.* †† Vogel, l. c.

51. After the redness has continued for two, three, or four days unchanged, it is gradually diminished, the swelling of the face subsides, almost the whole skin falls off, attended with very uneasy itching, nay sometimes it falls off in great crusts*, or at least is very easily rubbed off, leaving some very small scales, like bran, which go and come sometimes two or even three times †. Nor is it an uncommon thing for the spots themselves to return a few days after ‡, but then they are generally fewer in number, and smaller, and for the most part attended with no severe symptom. In the mean time the fever, which, together with all the symptoms, had begun to abate considerably, if it has not yet ceased, hastens to a turn,

The desquamation.

Its return.

and a salutary diaphoresis being kept up, it quickly disappears intirely. During the whole first and second stage of the complaint, and at its height, the belly is generally bound; but in the third stage, or towards the end, it becomes loose ||.

* Juncker, l. c. † Sydenham, l. c. ‡ Kirchvogel,
l. c. || Juncker, l. c.

62. This is the species of scarlet fever which De Haën * has confounded with the *rosalia* of Martianus, (by which name Martianus † observed, not scarlet fever, but measles, to be commonly called, as any one may gather from his description of it), and Morton with measles ‡. But it seems easily distinguishable from measles by the redness being brighter, and resembling an erysipelas, and by the spots being much broader, more diffused, and of more particular shape, and not rendering the skin unequal or rough: while in measles the pustules are true and circumscribed ones, small, raised, red, and, though thick and distinct, not only appearing elevated, but also being really manifestly rough and granulous to the touch, at least on the face. Next, in measles, there is present a very troublesome cough, nay, it even sometimes precedes the eruption; there is a watering of the eyes, and frequent sneezing, which by no

It differs from
measles.

means happen in scarlet fever. I would not deny, however, that sometimes both the eruptions are blended together in such a way, as, according to the nature of the combination, in Vo-

gel's opinion, to constitute a double kind of complaint, namely, a *morbillous* or *miliary* species of scarlatina, according as it is combined with measles, or the miliary pustules, of which here-

after. Wherefore the simple one, already described, for the sake of distinction, shall be called *maculosa*, and that which is complicated *pustularis*.

Double species of the disease.

The simplex and complicata, or the *maculosa* and *pustularis*.

* *Febr. divis.* l. c. † On the *Epid.* of Hippocrat. l. 2. sect. iii. v. 20. ‡ *Oper. omn.* T. iii. c. v.

THE CAUSES.

63. The proximate cause seems to be an erysipelatous phlogosis of the whole skin, occasioned by

some acrid matter, extricated by the febrile motion, and gradually carried to the cutaneous vessels, which by its irritation inflames the skin and the corpus mucosum of Malpighi. This acrid matter, again, is either generated and collected in the blood itself, until the vital power, being in consequence sti-

The proximate and material cause.

inulated, attempts to get rid of it; or it is supplied by the retention of the perspirable matter, or probably passes from the *primæ viæ* into the blood; or it is communicated by an external miasma floating in the air, or received by contagion; which is both a very frequent occurrence, and generally considered as almost invariable. For it is very probable that the exanthemata, although differing according to the diversity and degree of the morbidic fomes, arise from all these causes. But the disease is generally excited by acrimonies in the fluids, The predisposing causes. however occasioned, by salted and heating food, excessive agitation of body, the heat of summer, sudden cold, and by the prevalence of epidemic and contagious complaints.

THE PROGNOSIS.

64. It is supposed that the disease, when benign, and occurring in young people with well-conditioned fluids, is slight and void of danger; and that this is actually the case we learn from experience. For frequently, merely by attention to the diet, and a gentle diaphoresis, it is discolled within a few days. A hemorrhage from the nose, during the eruption,

The benign species void of danger. Epistaxis, when useful.

Why it sometimes becomes malignant. The retiring of the eruption.

proves of remarkable service *. But although it be a benign, easy disease, and of short continuance, yet, either on account of the cutaneous discharge being neglected, and cold being caught, or on account of employing too heating a plan of cure, it is converted into a dangerous and malignant one. For the patient runs very imminent risk if the scarlet eruption retires inwards, as in that case the worst kinds of phrenitis, angina, peripneumony, convulsions, and cough arise, generally proving fatal.

* Juncker, l. c.

THE CURE.

65. In this species, therefore, in which nature of herself attempts a salutary crisis, Sydenham, the first of practitioners, and distinguished for his accurate investigation of diseases, whose example is followed by almost every other writer, contends with reason, that nothing ought to be attempted, but that we should wait until the blood frees itself from the heterogeneous and noxious acrimony, and disperses it through the pores of the skin. Hence he advises the abstaining from bleeding, purging, and heating remedies of all kinds; that by the former the operations of nature, while endeavouring to force out the com-

Cure of the benign species.

plaint, may not be checked, or by the latter an
 excessive motion excited, and the fever increa-
 sed beyond bounds, thus opposing that moderate
 degree of motion requisite for the gentle separa-
 tion and successive excretion of the morbid fomes.
 He therefore prescribes temperate diet, intirely
 forbidding the eating of flesh, and using of vi-
 nous liquors. For the drink, he recommends
 milk boiled with three times its quantity of water;
 nor does he allow the patients to go abroad, or
 expose themselves to the open air, although he
 is not an advocate for keeping them perpe-
 tually confined to bed. For in
 this way, he affirms, that the disease The open air
hurtful.
 is discussed without uneasiness or
 danger; while by an opposite it is aggravated,
 and rendered fatal. When coma,
 or epileptic convulsions, come on at What the coma
and convulsions
require.
 the beginning (60.), a large and
 powerful epispastic applied to the back of the
 neck, and a paregoric to be taken off immediately,
 and repeated every night during the whole course
 of the disease, are recommended by him. Lastly,
 when a complete desquamation has taken place,
 he proposes gently purging the
 belly, that any remains of the mor- Purging towards
the end of the
disease.
 bid matter may be removed; in
 which respect all other writers agree with him.

66. And indeed it is proved that the scarlet fever, when it is slight and of the benign kind, is successfully resolved by the mere aid of nature, and employing a proper regimen without medicines.

Cure of the more
severe kind of
the complaint.

But if it be somewhat more severe, it seems to require the assistance of art. In that case diluent, cooling, and subacid remedies are generally proposed as necessary for blunting and correcting the peculiar and warm acrimony of the fluids. Heister * thinks that cooling and gently diaphoretic powders (which almost all the followers of Stahl and Hoffman employ) might be added to them with advantage. Although such powders, which are generally composed of absorbents, cinna-
bar and nitre, to us seem possessed of so little power as scarcely, if at all, to affect the rest of the

A remark on
bleeding.

simple cure. But what Sydenham, and other men of learning after him, observe, concerning the omitting of bleeding, does not hold so invariably as to preclude the use of the lancet upon all occasions. For in the malignant species, as will afterwards appear, it is considered by most physicians of extensive practice, as a remedy effecting the most immediate relief. And why should it not be so in the benign species likewise, when the patient is of a plethoric habit, and the fever violent; or when any severe symptom is present in the head or

breast? Freind very judiciously remarks †: “ In erysipelas, small-pox, measles, the scarlet fever, and other similar complaints, if the symptoms are violent, and affect the head or lungs, or excite great pain in any particular part, we may reasonably have recourse to bleeding with all manner of safety. In fact, though I have repeatedly tried the experiment, I never once observed any of these eruptions strike in after bleeding, when it seemed necessary;” and the experiments of other skilful physicians confirm his observation. But we have more reason to dread the striking in of the eruption from the increased violence of the fever, or from the spasmodic affections occasioned by the pains or inflammations; and this is most effectually prevented, particularly by bleeding. For when the motion of the blood is so excessive, although by means of bleeding it may be in some measure checked, yet such a degree of force still remains, as to enable it to propel the fluids powerfully to the skin, without allowing of a retrograde motion of them. Caution ought therefore to be used, that the blood may not be let to such extent as to weaken the vital powers too much, and check its power of forcing out the matter. For, in such a case, the striking in of the eruption might be apprehended from the languid *vis a tergo*.

* *Compend. med. prac.* cap. iv. § xxx.

† *Histor. medecin.* p. 21. edit. Venet. ann. 1735.

67. Sydenham and Juncker are so apprehensive of purging the belly, that the one suspects injections to prove hurtful, and the other, if a diarrhœa supervenes, immediately attempts to check it by adding to each dose of the correcting powder which he uses ten grains of cascarilla. But such apprehension is not always well founded, unless the purging employed be excessive, or ill timed, or the diarrhœa reduce the vital powers too much. Nay, at the very beginning of the complaint, before the eruption has taken place, if symptoms of colluvies in the *primæ viæ* appear, why ought we not to purge the belly by means of a gentle cathartic? What injury is to be apprehended from mild injections, which gently draw off the fordes? Tozzetti, a man of undoubted learning, and of the most extensive experience, was more than once surprised to find the diarrhœa in this disease, both at its outset and during its progress, prove salutary; which led him to inquire into the propriety of abstaining so carefully from the use of cathartics and clysters*.

Concerning
purging.

An observation of
Tozzetti, concerning the
looseness.

The injuries from
a colluvies in
the *primæ viæ*.

When symptoms of gastric colluvies appear, I never hesitate about quickly drawing it off; as I have frequently seen, that, when left in the system, it either imparts a worse taint to the blood, or excites spasms.

and pains in the abdomen, by which the separation of the morbid matter is either retarded, or its striking in, when already separated, promoted.

* *Prim. Raccolt. d' osserv.* p. 102.

68. But nothing is more pernicious to such as labour under scarlatina, than to uncover the body, or to rise and remain long out of bed, or to expose one's self imprudently to the cool air. For the eruption is easily forced in, to the great risk of the patient. Nor ought we to attend to those who indiscriminately recommend the using of the cooling regimen, forcing the patient once or twice out of bed every day, and making him remain up for some time, while at the same time they cause a constant renewal of the cool air. The imminent risk with which such a plan is attended, will appear evidently to any one who carefully and impartially observes the consequences resulting from such a mode of treatment. To prevent any accident, therefore, we must beware of every cause, however slight, which may have a tendency to force back the eruption. And if it ever happen that the body has been exposed to the cold air, giving reason to apprehend the striking in of the complaint, we must have immediate recourse to diaphoretic and heating draughts, as an infu-

The bad effects of the cooling regimen.

What ought to be done to prevent its striking in.

sion of elder-berry flowers, or teil-tree, or some such means, to renew a gentle perspiration. Sp. Mindereri, so much recommended in exanthematic complaints, on account of its diaphoretic and antiseptic power, may be also employed. Nor is this caution to be observed during the eruption only, but likewise after its disappearance, and the

commencement of the desquamation has taken place, the belly having been previously purged, as we

How long the perspiration should be kept up.

have already advised to be done, when an intire solution of the disease has been brought about. For the patient ought to be still made to keep his bed a few days, especially during cold weather; as a perfect cure cannot be obtained without keeping up a free perspiration *. Nay, in Tuscany, where this disease is of very frequent occurrence, men of skill in the profession, having frequently experienced the bad consequences of renewing the air at any season of the year, even during a warm summer, have laid it down as a rule, not to change the air nor the bed-chamber for six weeks †. Which is done with the view of preventing, as much as possible, the bad effects frequently resulting from the remains of the disease being retained, and not altogether dissipated. I am of opinion, however, that this rule must be considered as applying only to the imprudent renewing of the air and changing of the bed-chamber; as it is very well known,

that the air, when pregnant with human effluvia, becomes hurtful and inimical to the free discharge of the insensible perspiration.

* Heister, l. c.

† As recorded by Targionius, in the third volume of his work, intitled, *Avvisi sopra la salute umana, per l' anno 1778*, p. 262.

THE MALIGNANT SCARLET FEVER.

69. But besides the *benign* and *regular* scarlet fever, of which we have hitherto treated, there is another called *malignant* and *anomalous*, on account of its being more violent and dangerous, and sometimes even proving fatal.

For we do not employ the term What the term *malignant* here means. here in its strict and proper sense,

but in a looser one, implying the severity and great danger of the complaint. This species is frequently announced by a fixed pain in some part, or one shifting its situa- Symptoms of the malignant species. tion, without any evident cause, and

without any perceptible external mark, or change of the part, which is a symptom sometimes found to be in common to other malignant eruptions also, but especially small-pox. De Haen * has mentioned an instance of such a phenomenon pre-

ceding scarlet fever, which occurred in the course of his practice. But it is a much more frequent occurrence, and, as it were, peculiar to it, for the disease to be preceded by a severe cough, inflammation and redness of the eyes, and sometimes looseness. Next the fever comes on, after shivering, with very great heat of the skin, and unquenchable thirst, headach, quick and strong pulse, inflammation or pain of the throat, quick and difficult respiration, similar to what happens in peripneumony, sometimes a desire to vomit, or vomiting itself †, coma and delirium; and it sometimes continues three, four, or five days, with an increase of all the symptoms before the spots appear. Generally, however, like small erysipelatous inflammations, they quickly cover the whole body with an erysipelatous redness, sooner than in the benign species, breaking out sometimes towards the end of the first, or upon the second day ‡; and the parts themselves affected with redness are more swelled and elevated than in the benign species. At this time, the expectoration and urine itself, according to Rosen, have sometimes appeared tinged with blood. That redness generally continues upon the skin for four days more, during which the fever is observed to be violent, and all its symptoms, so far from being diminished, are increased, occasionally giving rise to fatal phrenitis, suffocations, and peripneumony. Sometimes, when the spots break out at one time more, at another less numerous,

or at one time redder, and the next moment less so, in that case a metastasis to the head is likely to take place, succeeded by hemiplegia, or sudden death. But if then pus, mingled with blood, is discharged by one or other ear, there remains still some hope, according to Rosen, of a favourable event. At any rate, it is an invariable fact, that the fever is of long continuance. It generally observes the type of a continued remittent, being for the most part attended with stuffing of the nostrils, hoarseness, and excessive heat of the skin. Sometimes, however, the disease is of such an insidious nature, that if the pulse is merely attended to, the patients do not seem at all affected with fever, which is a mark almost peculiar to malignity; or it sometimes has such manifest remissions, as to seem to intermit †.

* In the epidemic which prevailed at Copenhagen in the year 1777 and 1778, it was esteemed among the worst symptoms. Meza, *Comp. med. pract.* fascic. 1. c. xviii. p. 163.

† *Rat. contin.* P. i. c. vii. p. 98.

‡ *Id. ib.*

‡ In the epidemic just now mentioned, in the beginning the skin was very red, like boiled lobsters. Meza, l. c. § 164.

70. According as it is sporadic, or epidemic, and according to the variety of the patient's age, temperament, habit of body, the season, and the state of the air, it attacks people in different ways, and varies from its usual manner of proceeding; in

which case it is called, not only *malignant*, but also *anomalous*. Thus, sometimes the eruption of spots begins in the loins and lower extremities, from thence proceeding to the superior parts. Frequently the face, feet, and hands swell, as in small-pox, and the fever, together with the scarlet colour, does not disappear for two or three weeks. Nay, instances are recorded of the fever and scarlet eruption having been prolonged for forty days *. It has likewise been sometimes observed, after the discuffion and desquamation of the scarlet eruption, that the looseness still continues, accompanied with a slow fever, of the species called *amphimerina*, thus consuming and wasting the patient's strength †.

* De Haën, l. c. † Morton, *Oper.* T. iii. c. v. hist. x.

71. To the malignant species certainly belongs that which has been occasionally seen by Sennert, and of which he gave a description in 1619 *; to whom both the name of the disease was unknown, as well as the simple and benign species of it which I have already described. But as he was doubtful concerning its name, on account of seeing it attack children only he at length concluded that it was a particular variety of measles. But the

The species of the fever described by Sennert referable to the malignant kind.

description of the disease given by him exactly corresponds with that of the malignant scarlet fever; nor is there any reason for referring it to measles on account of its attacking children only, as it appears to be a certain fact, that adults also are frequently affected with it. Lang also describes a very bad epidemic scarlet fever which he himself saw in the years 1695 and 1697 in Saxony †. Morton has given the description of a malignant, nay pestilential, species of the disease, attended with swellings of the parotid glands, buboes ‡, and ulceration of the throat and mouth. In the years 1748 and 1749, a highly malignant and pernicious species of scarlatina prevailed at the Hague. It began with violent pain, and proved fatal to a great number of children, and to many young people. Nay, it converted the throat and cheeks into malignant ulcers, and the bones of the cheek into very bad caries, producing the same effects on the legs ||.

Likewise that of
Lang.

The pestilential
species of Morton.

* *Med. pract.* T. 2. l. iv. *de febr.* c. xii. *de variol. et morb.* p. 178.

† As we are told by De Haën, *febr. division.* divis. vi. § 2.

‡ In the epidemic scarlet fever which prevailed at Copenhagen, and of which I have already made mention, when swellings of

the parotid glands supervened, although suppuration took place, they occasioned death. For if they did not prove fatal at first, after the patients being distressed for four weeks, they at length died of pure debility.

|| Meza, l. c. § 167. Rosen, however, in the scarlet fever, which prevailed epidemically in the year 1741 at Upsal, mentions that the swellings of the parotid and maxillary glands were not fatal, and were gradually resolved. *Trait. des. malad. des enfans* c. xvi. p. 281.

§ L. c. *hist.* xi.

¶ L. c. p. 25.

72. There is a great resemblance between the former species of the complaint and the *epidemic scarlet fever*, which Navier observed in the year 1751 * at Chalons, and in some parts of France. But, as nothing contributes more either to the knowledge of a complaint, or its cure, than an accurate detail of the morbid symptoms, I hope it will be neither tedious nor unprofitable to the student to give a concise description of it. “ It discovered itself by a very violent fever, attended with fainting, spontaneous lassitude, headach, and sore throat, impeding the deglutition. On the second day, and frequently after twenty-four or thirty hours, an eruption took place over the whole body, consisting of red spots, of a bright scarlet colour, broad, frequently more than a hand-breadth, of an irregular figure,

One described by
Navier.

covering the back, breast, thighs, and nates, in such a manner as to seem one continued eruption. These spots, almost every moment deserting their situation, attacked other parts, in which they had not already been. On applying the hand to them a violent heat was felt, particularly in grown up persons, and the skin, which, on pressure, lost its scarlet colour and became pale when the pressure was removed, quickly recovered its former colour. The pulse was small and frequent, and the respiration difficult and interrupted, at the same time being generally accompanied with hiccup. The halitus arising from the lungs was so warm and burning, as to force a person to turn his head away. This fever likewise was occasionally conjoined with inflation of the hands and arms, and attacked whole families, either together or successively. In *some* patients the tongue was very dry, but in the *greater number* it was moist, and the belly distended with flatulency. In such as escaped from the disease, a desquamation of the epidermis took place on the fifth or sixth day; nay, the whole skin of the hand and foot of a young man of thirteen or fourteen years of age came off. Such as were not relieved at first, were attacked with gangrenous eschars in the throat, near the arch and velum palati, which spread so rapidly as to affect the œsophagus and

aspera arteria before they could be perceived and any remedy applied. Hence not a few were cut off. It must be remarked, that several labouring under the complaint died on the fourth or fifth day, as if they had been suffocated by a gangrenous inflammation of the lungs; while in others, who had died after violent delirium, a great quantity of sanies was passed by the mouth and nostrils, and the spots which were formerly red, after death in some instances became intirely of a violet colour." He moreover adds, that this pestilential complaint was much milder in infants, (which is surprising), and more readily yeilded to the remedies employed.

* *Dissert. in forme de lettre sur plusieurs, maladies populaires, &c.* a Paris 1753.

† *Com. de reb. in scint. nat. et med. gest.* vol. iv. P. 2. p. 338.

73. Towards the beginning of the winter of the year 1770 and 1771, several malignant and epidemic scarlatinas, described by De Haen * and Kirchvogel, occurred at Vienna, having been preceded by intermitting fevers. The chief symptoms rendering them alarming were, convulsions, coma, delirium, and not unfrequently also inflammatory *angina*, which, if seasonable relief was not given, terminated in gangrene

The epidemic
scarlet fever
of the year 1770
and 1771 at Vi-
enna.

and sphacelus, and proved very quickly fatal †. But they did not seem so fatal as those of Navier, nor were they always conjoined with gangrenous *angina*. For most of the patients, when properly treated, as Kirchvogel informs us, turned out well.

* *Rat. cont.* P. i. c. vii.

† *Diar. med. pract.* c. iii. p. 29.

74. We have an example of the complicated, or mixed species of the disease, or that which is partly *maculosa* partly *pustularis* (62), in that epidemic scarlet fever, which An instance of the mixed kind, Lorry, giving an account of the diseases of the year 1777, has named *universal erysipelas* *. Its very destructive nature and peculiar symptoms, the knowledge of which will be of great service to students, certainly deserve that I should here transcribe the whole history, as the ingenious author has given us it. Many exanthematic febrile complaints, as measles, erysipelas, scarlet fever, and other cutaneous eruptions, had been very common, and still were so that year. But, with respect to the present scarlatina, not only boys, but likewise young men, were very subject to it. After some shivering of short continuance came on a very violent fever, with fiery heat of the skin, dry tongue, red, inflamed

throat, shining eyes, dry lips, and a swelling of the upper one. Soon after the head became dark coloured ; and although the patients returned a proper answer, it was with difficulty they were made to speak. The respiration in the mean time was high, quick, and warm. Sometimes an inclination to vomit roused them from their torpor and silence, or actual vomiting occurred ; in consequence of which, greenish, and sometimes manifestly acid matter, was thrown up with a great effort, but without affording relief. Nothing was passed by stool, but limpid urine came off in great quantity. Nearly twenty-four hours were passed in this state, during which time the fever seemed to be aggravated, and even some degree of mental derangement, though but slight, was present. I would call this the first stage, or commencement of the disease.

Hist. de la Societ. Roy. de Med. T. ii. Mémoire. p. 7.

75. When this time had elapsed, some red spots, distinct from one another, began to appear on the hands, arms, loins, and face. But the symptoms received no kind of alleviation from this eruption. The respiration remained equally difficult, quick, and high, as formerly, although the patients complained of no uneasiness from that cause, as if

The eruption.

insensible of it, which I have always found to be an unfavourable symptom in any disease. The pulse, however, was hard, small, and very frequent; and the urine crude, watery, and very warm. The spots just now mentioned gradually extended, so that within six hours from their first appearance the whole surface, from head to foot, was covered with a very deep red colour. At first it disappeared on pressure, but not during its progress, for it afterwards became fixed. To the touch the skin was rough and granulous, and extremely hot. The complaint increased much within the space of twelve hours, so that not only the whole external surface The increase of the complaint. of the skin was very swelled, hard, tense, and like tanned leather, but likewise the whole cellular membrane became swelled, almost intirely altering the appearance of the body. Hence the lips, nose and neck swelled to an enormous extent. The swelling was not soft and watery, as in an œdema, but tense and hard. The skin seemed almost void of sense, but was so extremely hot, that, on applying one's fingers for some time, it felt as hot as the fire. In this second stage of the complaint, or during its progress, and at its height, the patients made no complaint, but remained in a state of senseless stupor, and were generally silent. Though their mouth

was parched, and their tongue black, nevertheless they were not thirsty, nor did they ask for any thing to drink. The respiration was inconceivably hurried. The urine frequently came away involuntarily. The pulse, likewise, became quicker and quicker.

76. After this stage had continued about six hours, next the nails became black. Sometimes the belly, which till then had been bound, was relaxed spontaneously, and stools, partly greenish, partly mixed with blood, were passed. Frequently phlyctænæ rose on the skin, which, if they were gangrenous, occasioned a subsidence and flaccidity of the swelling. Generally all the parts fell and became soft a few hours before death, and slight convulsions arising portended immediate dissolution. After death the skin became livid, and being covered with small pustules, and rough, it looked as if it had been anatomically injected. But it does not appear sufficiently evident from Lorry's description, whether these pustules were referable to measles, or the miliary eruption. Yet, if we consider the prevailing diseases, among which, doubtless, measles did not hold the lowest rank, they would seem rather referable to the latter complaint.

77. But if the destructive force of the disease was not such as to leave no room for

hope, the symptoms were gradually mitigated, and generally an hemorrhage from the nose supervened, which, though it did not prove completely critical, resolved the disease considerably. The eyes, which were dry and almost burnt, began to grow moist, and pour out tears. About the seventh day the cough became more manifest, but nothing worthy of notice was expectorated. Sometimes a full flow of saliva was excited, and a copious bilious diarrhœa came on. Lastly, the epidermis gradually fell off, while the extremities, but especially the inferior ones, were constantly bedewed with moisture. The disease, however, did not terminate before the fifteenth or twenty-first day. But, on its being overcome, a troublesome cough, and affections of the eyes, of long continuance, still afflicted those who had the good fortune to escape from the disease.

78. I cannot refrain from quoting another account of mixed * scarlatina, namely, one combined with the miliary eruption; and the rather, first, because this one was much less fatal; next, because an accurate description of it is given by the illustrious Störck, whose observations I frequently make use of, and it seems likely to be of very great service to such as have not the advantage of much experience. I shall give an

The signs of a favourable termination.

Another example of the mixed kind.

extract of it, therefore, almost in his own words. In the month of November, in the year 1759, when many patients in the Pazmanian hospital at Vienna were ill of a continued catarrhal fever, on which the miliary eruption frequently supervened, not a few were attacked with another fever, which at first appeared very

Its commence-
ment.

mild. " For there was present: only a slight and dull pain of the head, a weak appetite, a somewhat quicker pulse than usual, neither full, nor hard, nor low, moderate thirst, moist and white tongue, and the eyes were less lively than in general. The stools were passed every day natural, but a thick cloud was observed in the middle of the urine. In

Its increase.

the beginning of the fourth day all the symptoms on a sudden were aggravated. The pulse became so violent as to require two or three pretty copious bleedings on the same day; there was a most acute headach, anxiety at the chest, great difficulty of breathing, very parched tongue, the eyes were red and protuberant, the thirst was greatly increased, the whole body, but particularly the extremities, was attacked with burning heat; the urine was very red, thick, and as if tinged with much blood; to which symptoms were added, delirium, deep sleep, and restlessness. After performing the necessary bleedings, and giving very copious diluent drink, pre-

pared with nitre, towards the end of the fourth day the whole skin was affected with horripilation, and shortly afterwards became covered all over with a scarlet colour. But this was attended with no alleviation of any of the symptoms, the patients were ^{The scarlet eruption.} affected with a frequent cough, and spent an exceedingly restless night.

* We have an instance, also, of the mixed kind in the scarlatina of the year 1741, described by Rosen, which, although it was conjoined with an inflammatory angina, did not seem very fatal.

79. " On the fifth day, a copious sweat having broke out over the whole body, the burning heat and cough remitted. ^{The miliary eruption.}

Shortly afterwards the skin became itchy, next appeared a number of white, opaque pustules, of different sizes and shapes, and several of them running together formed pretty large blisters. These pustules were crowded upon the neck, breast, and belly; on the face were none, and but few on the extremities.

On these eruptions taking place, ^{The effect various.} some patients were much relieved; for the sleepiness, together with the delirium, left them; the thirst, and rapidity of the pulse, were diminished. Nay, in some cases, the pulse was healthy and regular, and all the symptoms so

mild, that the whole cure with safety might have been intrusted to nature. Some, however, remained in a comatose state, and became delirious; their pulse was weak, irregular, and intermitting; the urine and fæces were passed unconsciously, subfultus tendinum occurred; and the limbs were convulsed. On the sixth they remained in the same condition.

80. " In the beginning of the seventh day arose a shivering, succeeded by extreme cold in the limbs, which lasted more than an hour, rendering the extremities cold and rigid, and induced such debility as seemed to threaten death. But the cold ceasing, the patients shortly came to themselves, nor did they continue any longer delirious, their pulse was regular, free, and slower, and from that time the strength was improved; nor were any convulsions, or subfultus tendinum, afterwards observed. In some patients the fever almost intirely disappeared. On the same day all the pustules were more elevated, and became pellucid; for they seemed filled with a very limpid fluid; the scarlet colour began to vanish, and the thirst to be diminished. The urine was thick and turbid, and deposited a very copious, brownish sediment.

81. " The patients, who on the fifth day were much relieved (79.), on the seventh only were

sensible of a slight degree of *horripilatio* ; their pulse was somewhat quicker, and the pustules were fuller, and began to grow pellucid ; but all the other symptoms were in a very fair way. On the eighth day no change occurred, except that those who were unwell on the seventh day, sometimes passed bilious, thin, fetid stools, attended with no uneasiness ; while the belly was natural in such as felt less uneasiness on the seventh day. On the ninth day the fever was very slight ; the urine almost natural ; the looseness stopped ; the scarlet colour gradually passed into the natural one ; the pustules partly burst, and poured out limpid serum, partly subsided and became dry. On the tenth day the skin had almost intirely recovered its natural colour, and all the symptoms were better, and some of the patients, being completely free of the fever, remained several hours out of bed. On the eleventh the fever ceased in them all, the appetite returned, the epidermis fell off in scales, the strength and perfect health returned in a few days*.” Of this same mixed kind was the malignant and epidemic scarlatina, which my accomplished friend Zulatti†, in the year 1763, observed to rage in a city of Cefalonga, and its neighbourhood. It was combined with dyspepsy and lumbrici in

Horripilatio preceding a new eruption.

Termination of the purple colour and pustules.

End of the fever.

such a manner, that merely by a diarrhœa, whether spontaneous or excited by art, its worst symptoms, as delirium, convulsions, swellings of the parotids, and inflammation of the throat, were completely removed.

* *An. med. secund.* p. 46.

† *Giornal. di Medicin. di Pietro Orteschi*, T. 2. Num. xxix. where a very full account of it is given ; which, as it contains many things illustrative of the complaint, its causes and method of cure, I trust I shall gratify the reader, by briefly transcribing here. A very rainy, but not cold, winter was succeeded by a dry, cold spring. Such was the dryness of the season, that for four successive months there was no rain, and even the night dews, which moderate the heat and dryness of that island, did not fall. Towards the end of May, the weather suddenly became warm and oppressive. Then, besides double continued tertians, scarlet fever began to prevail in the city and its vicinity, attacking particularly children and young people of both sexes, while such as had passed their twentieth year escaped it. In some patients the disease began with shiverings in different parts of the body, together with loss of strength, and very acute headache ; in others with sudden lassitude, accompanied with intolerable heat all over the body. They almost all complained of want of appetite, unquenchable thirst, dryness and bitterness of the mouth, and a sensation as if the limbs had been broken. Moreover, their tongue was foul, covered with a white, viscid mucus, and there was constant nausea, sometimes succeeded by spontaneous vomiting of a watery, frothy, yellow, and bitter matter. On the second, third, or fourth day of the fever, which was always violent, first the neck, and next the whole body, was covered with a red colour. But the redness appeared more or less intense, according as the disease was to turn out more or less severe. No less a degree of heat and dryness accompanied the redness. This colour was here and there

variegated with some very small blisters, not much raised, about the size of mustard-seeds, sometimes even more minute. Neither the fever nor its symptoms were diminished by the eruption appearing; nay, the headach was shortly increased to a very great height; the oppression at the chest, anxiety, and restlessness, were more constantly present. Sometimes also delirium came on: nay, infants during a short and interrupted sleep were occasionally seized with convulsions. But the pricking or gnawing sensation they felt about the pit of the stomach became more troublesome. In most instances the belly was bound; in which case the fever and its symptoms were more violent. In others from the very beginning it was loose, and very fetid, saffron-coloured stools, mixed with lumbrici, were passed; and in such patients the disease proved milder. In some children, with pale faces, and who seemed more reduced, many lumbrici were spontaneously passed both by the mouth and anus, without any other excrements, sometimes living and vigorous, at other times dead and putrid. In both these ways, a girl of twelve years of age passed upwards of fifty lumbrici in the space of four days. In almost every case, a pain and swelling of the parotid glands came on after the fourth day. Where this swelling was wanting, the throat was affected with inflammation, and deglutition became difficult. Very few indeed remained free of one or other of these inconveniences. But suppuration of the parotids never occurred. For they were resolved sooner or latter, according as the redness and fever disappeared, and the fomes of the disease was removed by the stools. It was sufficient to anoint them with some liniment, to which camphor had been added. In the same manner, and by the same process of nature, the inflammation of the throat was diminished. It received great relief from the barley-water, to which a small quantity of vinegar of roses had been added. On the seventh day, or even sooner, when the disease was of short continuance, but, on the eleventh, twelfth, or fourteenth, when it was of longer standing, the redness seemed sprinkled as it were with very

fine flour, with which the skin was gradually rendered white, the whiteness commencing in the superior parts of the body. The skin was then so itchy, that the patients felt a pleasure in scratching it. After this the powder separating fell off, or a desquamation of the scarf-skin took place. Then the fever was quickly mitigated, sometimes even subsided intirely, although the redness continued for some days. The appetite returned with longer and more tranquil sleep. No sweat, however, broke out, until the scarlet colour completely disappeared. The urine, which, during the first days of the disease, was passed sparingly, thin and watery; in its progress, and after its turn, became more copious and deeper coloured. The strength and health then returned. I shall hereafter shew the plan of cure that was adopted.

84. The description which has already been given of malignant scarlatina and its varieties

The diagnosis.

(69. to 81.), I think has been so well illustrated by adducing proper examples, as to render the proper diagnosis easy to every one. It would now remain for me to say something concerning the causes; but these were

The causes.

sufficiently explained when we spoke of benign scarlatina (63). For, if there be any distinction between them, it seems to consist intirely in their degree, quantity, and their greater force. It therefore follows, that the malignant species is not only attended with greater severity and danger, but is also frequently

The prognosis.

observed to prove fatal. Which led Sennert to observe, with justice, " that this complaint is both severe, dangerous, and often

fatal *.” The anginous or aphthous species (71.), and especially the epidemic and mixed kind (74.), as we have already remarked, generally terminates in a fatal gangrene, and dreadful suffocation. That species which Lorry observed (74.) cut off the greater part of the patients in spite of the most efficacious remedies employed. This was not the case with the malignant scarlatina of the mixed kind, and the *verminosa* described by Zulatti (81.), which, when properly treated, always terminated favourably.

* L. c.

CURE OF THE MALIGNANT SPECIES.

83. At the very beginning of the complaint, before the scarlet eruption makes its appearance, if there be symptoms of indigestion present, a mild cathartic ought to be given, or, if it seems proper to expel it in a shorter way, vomiting ought to be excited by warm water with oil, or oxymel of squills, or ipecacuanha, keeping in view the patient's age and strength. But the exciting of vomiting is in no case more necessary than when the disease seems to have proceeded from an epidemic miasma; for when, by means of vomiting, the

Purging.

fomes which has entered the *primæ viæ* is withdrawn, the disease is rendered much milder. This has been often observed, particularly in the epidemic scarlatina, with which an aphthous or gangrenous angina is conjoined. But, as this species of the complaint is generally accompanied with violent fever, excessive heat, and other very severe symptoms, and there is every reason to dread the coming on of inflammation, it is not only allowable to draw blood,

Bleeding.

but even necessary. And that ought sometimes to be done on the fourth or fifth day after the eruption, or even later *. In the pestilential species, in which swelling of the parotid glands and buboes supervened on the eruption (71.), Morton † used to cause blood to be taken with advantage, and blisters to be applied. In which case also De Haën ‡ has proposed the copious use of the Peruvian bark. In other respects, the antiphlogistic plan of cure is intirely to be followed, which we have already shewn to be of advantage in the benign species when a little severe (66.).

The diarrhœa.

The diarrhœa must by no means be stopped, if the *primæ viæ* abound with fordes, and the strength be sufficient. But if it appears excessive, it may then be checked somewhat by the white decoction, absorbents, and the bark taken to the extent of a scruple, with four drops of lau-

danum repeated three times a-day, keeping in view the patient's time of life *.

* Morton, l. c. *Hist.* i. De Haën, l. c. † L. c. *Hist.* xi.
 † De Haën, l. c. *Hist.* i. || Morton, l. c. *Hist.* x.

84. In the epidemic scarlet fever, accompanied with an aphthous angina, described by Navier (72.), a vein in the arm was quickly opened ; but when delirium and co-
Navier's method.
 ma were present, opening the jugular veins was found to be extremely advantageous. Nor did De Haën (73.) employ any other method of treatment in the scarlatina which prevailed at Vienna in the year 1771. But we must not omit to mention, that Kirchvogel, in the very
Kirchvogel's plan of cure.
 same epidemic, never employed bleeding, although angina supervened, and nevertheless, as he informs us, restored his patients to their former health, merely by a temperate and diaphoretic regimen, by spare diet and hydromel. Yet he did not think that bleeding ought to be intirely rejected ;
He did not reject bleeding altogether.
 for he observes : “ I would not, however, have it supposed that I reprobate all bleeding in them, as I know that it was sometimes very necessary, particularly in grown-up persons, and that not a few were carried off both with and without the aid of bleed-

ing. In the meantime, however, as I observed this scarlet fever to be greatly owing to the former fever, (namely, an intermitting fever which prevailed before it epidemically), as its cause, and that it principally deposited its virus about the fauces, I treated the patients under my care successfully, by means of the Peruvian bark, both given in the way of injection, as well as taken by the mouth, without once employing bleeding *.” It will appear strange, though not a new thing, that in the treatment of the same disease, prevailing in the same place, and at the same time, De Haën and Kirchvogel, men of the utmost eminence in the profession, should have adopted two opinions

so diametrically opposite concerning
Cautions concern- bleeding. In such cases, if I mis-
ing bleeding.

take not, no general rule can be established; as I am of opinion that it is sometimes proper to draw blood, and sometimes proper to abstain from it, according as the symptoms either indicate it, or not. On the whole, in diseases occasioned by any virus, or very acrid and caustic morbidic humour, although they appear inflammatory, it is better to have recourse to bleeding sparingly and seldom †.

* *Diar. med. pract.* l. c.

† In the former parts of this work I have made many observations, in order to settle such controverted points, which it

may be proper here to call to mind : in the following chapters, also, and particularly when we come to treat of angina and pleurisy, much will be found illustrative of the subject.

85. After bleeding, whey, with the addition of tamarinds and cooling herbs, used to be given by Navier for the common drink. Above all, he recommended the frequent use of clysters. He obtained great benefit from blisters applied between the shoulders, or to the calves of the legs. He employed paregorics, if they were admissible, before purging the belly, only in divided doses, but after purging somewhat more liberally. He prevented gangrene of the fauces by a gargle of oxymel and spirits of wine, rectified with salt of tartar, in which a proper quantity of camphor had been dissolved. With the same view, if the throat was very sore, and of a red cinnabar colour, others ordered a decoction of Peruvian bark, or hemlock, to be injected into it ; and gave for drink milk mixed with some refrigerant decoction, or, occasionally, a paregoric emulsion with nitre *. De Haën gargled the ulcers of the mouth, if they were white and blistered, with the juice of house-leek, or *sempervivum majus*, with

The utility of purging and blistering.

Paregorics.

What is of service in gangrene of the throat.

In ulcers of the mouth.

honey and roses, which is the safest remedy. But

Cautions. great caution must be employed in the choice of these remedies. For

when there is a great degree of phlogosis, or phlegmon, of the throat and mouth, accompanied with excessive pain, it is proper to beware of heating and irritating remedies, that they may not aggravate the complaint, and accelerate the approach of gangrene. Hence it is generally better to gargle it gently with a decoction of rich figs, with milk, or an infusion of elder-berry flowers, and a little oxymel, or syrup of mulberries, or to pour some of any of these into the throat by the side of the mouth, through a pipe. It is serviceable also to inhale the vapour arising from a sponge dipped in warm water and vinegar, and applied to the breast. But when the nostrils are dry and obstructed, it is of advantage to introduce a rag, wet with tepid milk, occasionally repeated. The observations elsewhere delivered †, and which will be met with in the chapter on malignant and gangrenous angina, if transferred to this place, will readily point out the proper remedy to be employed in every case.

* Kirchr. l. c.

† Vol. i. par. 296.

86. Every body knows how powerful a remedy the Peruvian bark is against putrid and gangrenous diseases. But I have frequently seen

it employed without hesitation and judgement, not only in fevers attended with universal languor, but also in most acute and ardent ones, in which, without doubt, the action of the vital functions exceeds bounds, and the body glows with an intense and fiery heat.

But when such excessive violence

The moderate use
of Peruvian bark.

in all the functions is present, how serviceable it is to abstain from those remedies which excite the heart and arteries to violent action, and therefore from the Peruvian bark itself, we are informed by the experience of all judicious practitioners. Lorry, in the worst and most fatal species of scarlatina which he treated (74.), was of opinion, that no other plan of cure ought to be adopted in so very ardent a fever, than a refrigerant and antiplogistic one. Nor can I conceive the reason why De Haën, otherwise a cautious and prudent practitioner, should have loaded his patients with a great quantity of bark for several weeks. In the epidemic

a little before noticed, as he mentions, when the malignity was not so great, he did not give less of its extract than half an ounce daily; but, when there was a greater degree, a whole ounce, and often a double dose of it every day. Perhaps in cold climates, and among the Germans, it may be employed more boldly, or that which is imported thither is so stale, or adulterated,

Refrigerants.

as I have reason to suspect, that even when given in a greater quantity than usual, it scarcely produces any effect upon the patient *.

* The extract of bark, for the sake of gain, may be adulterated more easily; and De Haën, with most other German physicians, used to employ the bark in that form. The true and genuine extract, on account of a small quantity only being produced from a great quantity of the bark, sells at a very high price. By the addition of foreign substances, therefore, or by the extracts afforded by other plants, apothecaries increase its quantity, and their own gain. Nor are the apothecaries in Germany guiltless of such frauds, their avarice in this way having been of late clearly detected, and deservedly punished.

87. But besides the remedies which either prevent or check gangrene of the fauces, both taken into the stomach, and injected into the throat, or employed in the form of a gargle, some are also employed externally to draw the violence of the disease outwards. De Haën caused blisters of cantharides, or cataplasms, with mustard-seed, to be laid upon the neck, following the example of the most ancient physicians, who used to produce

ulceration of the skin in inflammation of the throat by acrid and salt applications. When the pain and heat show that excessive irritation is present, endangering the approach of gangrene, I prefer anodyne and antiseptic fomentations of the cooling and antiphlogistic kind. Decoctions of elder-berry flowers

An admonition.

and mallows, mixed with vinegar, and somewhat warm, are considered as being best adapted to this end. Nay, cataplasms of mallows and lint-feed, and crumbs of bread boiled in milk, are very proper, provided they be frequently renewed, that they may not become cold. Neither must we, perhaps, on all occasions approve of the excessive profusion in purging and bleeding, which The purging and bleeding to be limited. De Haën employed, as every where appears from the histories of scarlet fever recorded by him. Nor must we give our assent to his extreme partiality in favour of the cooling regimen, by which he was too frequently led to permit the patient to get out of bed, and thus occasioned a checking of the cuticular discharge. It was perhaps in consequence of this, that the patients under his care were liable to very severe and unusual changes of the complaint, and remained longer affected with it than usual. I am well informed that many of the patients experienced the sad consequences of such rashness. For sudden and fatal metastases are too often the result. But when, either in consequence of the cooling regimen, or How to prevent the striking in of the complaint. purging or bleeding being improperly employed, or from any other cause, the scarlet eruption strikes, giving rise to dangerous symptoms, we must make all manner of haste to recall it. With

which view Kirchvogel frequently employed with advantage blisters externally, and camphor and warm drink internally. But in this case we must employ with all manner of dispatch the remedies which I have elsewhere recommended *. The salutary motions of nature, however, when they are neither excessive nor defective, must be kept up by all means; and we ought to promote them with acidulous, tepid, and gently-diaphoretic drink, and with sparing antiseptic food, fit for supporting the strength, until the disease takes a turn, and is resolved, the redness gradually disappearing, and a desquamation of the scarf-skin taking place. At length, as in the benign disease, the belly ought to be purged once or twice by means of some mild cathartic †.

* Vol. I. par. 219.

† As I have already quoted (81.) the description of the epidemic, malignant, and mixed scarlet fever, given by Zulatti, it is proper not to pass over the simple manner of cure which he employed with safety and advantage. Immediately on its commencement he perceived that it arose from a vitiated condition of the chyle in the stomach and intestines, as appeared from the bitter taste in the mouth, and the fetid perspiration; from the foul, mucous tongue; loss of appetite; nausea; spontaneous vomiting; the passing of worms; and from very oily stools. Hence he turned his attention to purging the *primæ viæ* of this colluvies by promoting the diarrhœa, when present, and by gently exciting it, when it was not present. On which account he employed a cathartic and anthelmintic medicine, consisting of two drachms of rhubarb, a drachm and a half of jalap, and a drachm of worm-seed, reduced to a fine powder.

and three ounces of fennel-water, with two ounces of treacle-water, forming a liquid mixture. But of this mixture, according to the patient's strength and age, temperament, and the violence of the disease, he every day gave three, four, or five spoonfuls, sometimes more, sometimes less, at separate intervals, until the belly was relaxed. The dose of the medicine was afterwards accommodated to the excretions, in such a way that they might not exceed bounds, but continue to draw off the colluvies. Nor was there occasion for any other medicine during the whole complaint. After the first stools the symptoms were immediately relieved, especially the headach, convulsions, inflammation of the throat, and knawing sensation at the stomach. Hence also the colour, from being of a very deep red, became of a pale-rose colour. Nor was it long before the itching, which was an excellent symptom, came on, together with soft and full pulse. Within five or six hours, twenty-four stools in some patients were sufficient to produce these good effects, in others more were necessary, according to the degree of the putrid colluvies. In little children generally one dose of the remedy removed the whole complaint; in such as were farther advanced it was sometimes necessary to repeat the dose, but it was never taken off entirely. This was the most usual and certain method of cure he employed. He confesses, however, that he had sometimes recourse to bleeding also, to remove some dangerous symptom. But that remedy was useful when a hard and full pulse and excessive headach required being moderated. The blood when drawn never shewed the buffy coat. Sometimes also there was room for blisters, that is, when the patient was oppressed with deep sleep. But nothing was better and more efficacious than purging the belly. The diet consisted intirely of panada, or bread dipped in pure water; as animal food, or animal broths, increased the fever and redness. For drink pure water, or tinctured with nitre, was given liberally. The patients were covered with a moderate quantity of bed-cloaths, and fresh air was admitted several times in the course of the day. And whatever favoured of an alexipharmac or diaphoretic was

was forbidden. Thus the whole of the scarlet fevers which he treated were happily removed.

THE
SECONDARY DISEASES,
OR
ANOTHER STAGE OF THE SCARLET FEVER.

88. But experience has frequently shewn that, after the resolution of the scarlet eruption, and desquamation of the epidermis, convalescents, by neglecting the diaphoretic regimen, or incautiously exposing themselves to the cold air, or if they have not had a perfect crisis, sometimes a few days after, sometimes about the twenty-first day, or even later, fall into very severe diseases, by which many of them are cut off*. Nor does this happen only in the malignant and epidemic scarlet fevers, which are more liable to this accident, but also in the benign and regular ones, though much seldomer, as we are informed by the best practitioners†. This is called the second period, or stage, of scarlatina‡, in the same manner as the fever succeeding to confluent or malignant small-pox, has generally got the name of secondary fever.

The cold air
hurtful.

* An instance of universal œdema, into which a patient fell on the thirtieth day from the beginning of the disease, after having been long free of fever and the scarlet eruption, in con-

sequence of getting out of bed to breathe the pure air, is recorded by a very experienced physician of Florence, namely, Aloys Neri. *V. Avvisi sopra la salute umana*, vol. iii. p. 262.

† *Ibid.* ‡ Heist. *Compend. med.* l. c.

89. But these complaints (88.), although proceeding from one and the same cause, are of a manifold nature, according as the acrid humour, which ought to have The complaint manifold. been dispersed through the pores of the skin, attacks particular parts. In some people, being carried to the joints of the extremities, it excites pain and redness, as in gouty patients *. In others it affects the lymphatic glands, causing swelling, induration, and pain in them †, Very frequently it is carried to the lungs, producing dyspnœa, and a sense of suffocation : but if it attacks the head, or brain, delirium, convulsions, and death, shortly follow ‡.

Of all the symptoms, however, the OEdematous swelling very frequent. most frequent is an œdematous, or leucophlegmatic swelling, affecting the whole body, or particular parts of it, generally accompanied with scanty, turbid, and dark-coloured urine, and sometimes with a total suppression of it ||. I find that that was already noticed by Sen-
nert ; for, after desquamation of the skin, he observes, “ Shortly the feet, up to the ancles, and even to the calves, swell, the hypochondres are affected, the respiration becomes difficult,

the belly swells, and the patients, not without much labour, and a great length of time, are at length restored to their former health : frequently also they die §.

* In this other stage Rosen observed the urine not only scanty, but resembling water in which flesh had been washed. Vid. *Trait. cit. version gallic.* p. 281.

† Sennert, *De febr.* l. 4. cap. xii. *De variol. et morbil.* p. 178.

‡ Heist. l. c. || De Haën, l. c.

§ L. c.

90. But the swelling with which I have mentioned the body to be affected, is of a double kind ; the one warm, and the other cold : a distinction which deserves particular notice, that the proper cure may be adapted to each of them. I call that the cold one which resembles an actual œdema, or anasarca, appearing white, soft, and watery, and by no means warm to the touch, being accompanied with universal debility, loss of appetite, low, languid pulse, not hard nor febrile ; while the warm one approaches more to a leucophlegmatic swelling, is hard and tense, does not retain the impression of the finger, and imparts an acrid or pungent heat to the touch, attended with a hard, frequent, and febrile pulse, difficulty of breathing, snoring, dry, white tongue, generally excessive thirst, sometimes, however, inconsiderable, and with very scanty urine, or almost a suppression of it. If I

The tumour of a double nature, warm and cold.

mistake not, the first who observed this very useful and real distinction were the physicians of Florence *, to whose ingenuity and practical as well as anatomical knowledge, for sixty years

The Florentine physicians were the first who knew the disease.

back, we owe not only the true pathology of the disease, but also the best and surest method of cure. For, about the year 1717, in Florence, when a great many laboured under an epidemic scarlet fever, and all were cured about the 14th day by Sydenham's simple method ; it was observed, that some of the convalescents, about the twenty-first day, began to complain of a certain degree of heaviness in their respiration, a slight cough, and some swelling of the eyes, face, and outside of the throat ; which symptoms were succeeded by fever, and as they increased,—especially the swelling, which became universal, attended with slight pain in the chest, tension, and sometimes tormina of the abdomen, and suppression of urine,—the patients, having been previously treated with diuretics, were speedily carried off †. After this, the dead bodies being opened, it was found that the lungs, pleura, intercostal muscles, diaphragm, kidneys, and intestines, were more or less inflamed. They were therefore led to adopt the opinion, that peripneumony, induced by a metastasis of the morbid matter not completely evacuated, ought to be considered as the

primary disease ; and that the leucophlegmatic swelling was a symptom or effect of it. For the lungs, and other parts devoted to the function of respiration, being inflamed, and the circulation of the fluids through the precordia being on that account nearly interrupted, they easily understood why the return of fluids, both by the veins carrying blood and lymph, being retarded, and the absorption of the serous fluid from the cellular membrane being checked, the whole surface of the body became unusually swelled, in consequence of retention of its more viscid and thicker part. Wherefore, in others

Why bleeding is
serviceable.

labouring under this disease, they began to let blood from the arm, and, if it were necessary, it was repeated ; by means of which they were all cured, the success with which it was attended showing the propriety of such a practice ‡.

* *Avvis. sopra la sal. um.* T. 3. N. 5.

† J. Calvus *Comment. de hodierna Etrusc. clinica.* To be found in Roncalli Parolini *Medicina Europæ*, p. 333.

‡ *Ibid.*

91. Nor was bleeding serviceable in that epidemic only, but on different occasions afterwards, whenever such a leucophlegmatic swelling supervened in convalescents from this disease, accompanied with fever, and the other

The warm swelling always received benefit from bleeding.

marks of warm swelling, although it did not seem to arise from an internal inflammatory congestion of the lungs and other viscera, but merely from infarction of the cellular membrane, occasioned, as sometimes happens, by retention of the acrid perspirable matter. Hence all the physicians of Tuscany, in opposing this affection, which would otherwise prove fatal, have laid it down as a rule, to employ the antiphlogistic regimen, namely, bleeding, nitre, correcting and subacid remedies *.

* *Avvis. sopra la sal. uman. l. c.*

92. But if the body, belly, legs, or other parts are seized with the true cold and soft swelling, without fever, a totally different plan of cure must be employed. Then all the remedies which gently draw off the ferous colluvies are considered as most proper, of which kind are cathartics occasionally repeated, and diuretics continued till the complaint is resolved. But of these De Haën * advises us to select such as are possessed of both a correcting and cooling quality. But, for relaxing the belly, I rather approve of manna, its syrup or conserve, cream of tartar, sal polychrest, cassia flowers, or its infusion. When cathartics are refused by patients, clysters may be employed, consisting

How the cold swelling is to be cured.

Cathartics and diuretics hold the first rank.

of a decoction of the leaves of fenna, which sufficiently powerfully removes the ferous fluids. To excite a flow of the urine, many propose ten, fifteen, or twenty drops of tincture of salt of tartar, to be drunk off twice or thrice a-day, in a proper vehicle. Some also attempt to increase its power by the addition of the *liquor terræ foliatæ tartari*, or *sp. nitri dulcis*. Likewise nitre given liberally, the decoctions of aperient roots, and oxymel of squills, rendered more agreeable by the addition of a syrup, are not without their use. Sometimes when the disease was very obstinate, and when there was some reason to suspect the presence of ascites, children, particularly, when affected in this manner, were restored by syrup of succory and rhubarb, and by an infusion of juniper-berries, sweetened with some opening syrup. If laxity and want of tone

When the Peruvian bark and blisters are indicated.

in the solids seem to be present, Peruvian bark is added with advantage to these remedies. De Haën † mentions his having removed ascites by interposing its use among the other remedies. Plasters of cantharides, also, which are otherwise used in anasarca with advantage, are recommended here by Vogel ‡. Repeated trials have shewn that sudorifics, on account of the obstruction of the skin rendering them inert, prove of no service ||.

* *Rat. contin.* l. c.

† *Ibid.*

‡ L. c. § clvi.

|| Heister and De Haën, l. c.

93. In a similar way must we relieve the pains in the joints, and swellings of the glands (71.), which succeed to scarlatina. For they either shew a warm and inflammatory nature, and are combined with fever, or they are cold, as they are called, and simply lymphatic, unaccompanied with fever. In the former case we are to employ antiphlogistic remedies, in the other cathartics and diuretics, to produce resolution of them. Among the cathartics jalap and sweet mercury, among the diuretics squills and millipedes, hold the first rank. Meza mentions, that in the epidemic scarlet fever of Copenhagen, the glandular tumours of the neck and parotids, when they did not suppurate, and were of long standing, besides mercurial cathartics, received advantage from a liniment of oil of sweet almonds, spirit of sal ammoniac, succinated liquor of hartshorn, and camphor. Plencizi * celebrates the wonderful virtue of aurum fulminans in these successions of the disease ; and in particular the pills of Weber of Turnberg, a physician of considerable celebrity, which contain the aurum fulminans in their composition, are held in the highest estimation †. But as I observe the aurum fulminans added to other medicines, sufficiently efficacious of themselves, as sweet mercury, Rhubarb, spirit of coagula-

The pains of the joints and glandular swellings require the same mode of treatment.

ted salt, squills, &c. ; it remains doubtful whether or not the good effects arising from its employment ought to be ascribed to the aurum fulminans, or to the other substances with which it is blended. Be that as it may, this remedy, when fever is present, and especially when it is somewhat violent, judicious practitioners are agreed, ought not to be admitted ‡.

* *Op. physico-med.* T. iii. The substance of his treatise on scarlatina, with seventeen observations, illustrated with annotations, is inserted in Fascic. 2. *Oper. min. med. et Dissert. a Fran. Xaver. De Wasserberg Collect.* p. 188.

† Weber's pills are made as follows :

℞ Rhei elect. sp. sal. coag. ana drach. ij. Merc. dulc. aur. fulmn. extract. scill. ana drach. i. Rob. junip. q. s. ut f. pil. gran. i. vel. ij. auro argentove obvolvend. D. n. i. vel. ij. pro ratione ætatis quovis bihorio, sic ut solvatur alvus ter singulis diebus. Sin minus, add. pilulis magisterium mechoacannæ, aut digrydium sulphurat. aut pilulæ cochix. Superbib. infus. baccar. junip. vel radic. aperient. Post. trium vel quatuor dierum spatium intermittatur ad unum diem. Paregorica dentur vesperi ad sedandum.

‡ De Haën, *Rat. contr.* P. i. c. viii. p. 146. and 147.

94. It remains that the patients should be kept quiet, of a moderate and uniform temperature, and that a gentle and constant

The diet.

perspiration should be preserved. But in the same manner as cold and exposure to the open air are injurious, excessive heat also is not unattended with harm, and is therefore

carefully to be avoided. If their strength be sufficient to permit it, Heister does not object to their walking about in their bed-chamber, in a proper temperature, and defended against the cold air *. Lastly, the nature of the diet ought to be accommodated to the complaint, namely, cooling and opening, and consisting more of vegetable than animal matter.

* *Comp. med. pract.* c. iv. § xxxi.

CHAPTER V.

OF THE NETTLE-RASH *.

95. OF almost all the exanthemata, the slightest and safest is that which is named *Nettle-rash*. After a slight attack of fever, like an ephemera, sometimes without any fever, it breaks out under the form of whitish red spots, distinct, and raising the skin, and attended with itching; in size and appearance very like those occasioned by the pricking of nettles, or the stings of wasps or bees. These pustules occur not only in children, but in adults also, quickly covering the whole body, and increasing like small tubercles; but they attack in particular the face, neck, and arms; and, if ever they conceal themselves under the skin, they occasion intolerable itching, and quickly

re-appear on being slightly scratched. They appear at all seasons of the year, chiefly after the drinking too much wine and other diffusible stimuli †; sometimes without any evident exciting cause ‡; although I have occasionally observed that complaint produced by some acrid fordes in the stomach ||, or by suppression of the perspiration.

* Synonyms. *The other species of the erysipelalous fever of Sydenham. Oper. sect. vi. c. 6. The Effera, Sora and Sare Arabum, of Sennert, med. pract. l. v. P. i. de tumor. c. xxvi. The purpura urticata of Juncker. Tab. 75.; and of Schacht, Inst. med. pract. c. xi. § vi. The Purpura urticata, nonnullis Porcelaine of Lieutaud. Synops. med. tom. i. l. ii. sect. iv. The Febris urticata of Vogel. De cog. et cur. morb. § clviii. and of others. The scarlatina articata of Sauvages. Nosol. cl. iii. ord. i. gen. 8. sp. 2. The febris rubra pruriginosa of the same author.*

† Sydenh. l. c.

‡ Swiet. § DCCxxiii.

|| After the eating of lobsters, limpits, urchins, crabs, and other shell-fish, Lieutaud has shewn us that such an eruption sometimes occurs. *Synop. med. T. i. l. ii. sect. iv. Cap. cut. macul. et efflorescentæ.*

96. When this eruption is preceded by fever, it begins with scarcely preceptible chilliness of the surface, succeeded by heat, though not great, with moderate thirst, and some uneasiness in the head, or a very slight headach, and a particular feeling

The nature of
the fever.

of anxiety about the præcordia, together with debility. On the spots breaking out, which generally happens a few hours afterwards, the fever, anxiety, and other symptoms disappear. But the eruption continues two or three days until they are intirely resolved by the insensible perspiration. Frequently, however, the whole noxious humour is not expelled by one eruption. On the fever remitting the spots are likewise diminished, but on a slight degree of fever returning, in the evening they again break out, disappearing in the morning. Thus they come and go for several times until their fomes is intirely exhausted. It frequently happens that in consequence of heat of the bed and the perspiration being increased, they seem to have disappeared, but on the patient's being exposed to the air on getting out of bed, the perspiration being checked, the spots become conspicuous, raising the skin as before, and being attended with remarkable itching and heat. It rarely terminates in desquamation, although others alledge that the eruption is liable to this termination.

The eruption.

How it disappears.

97. I have more than once seen it affect only certain parts, as the arms or legs, sometimes also the whole body, without fever, and remain changeable, going and coming at particular hours for several

It is sometimes without fever,

days, but, in general, it does not exceed four days. It is an observation of Van Swieten's *, that, on their disappearing, anxiety of the præcordia and slight fainting succeed to them, and that, on their striking out again, these inconveniences cease intirely. Those who are thus affected, in other respects are well. Hence, however, it appears, that their striking in will not be unattended with harm. Vogel, when the eruption is attended with fever, tells us, that frequently shiverings occur, and looseness generally from the beginning, together with turbid and dislimy urine; but that there is no danger present, and that the fever is resolved by critical sweat on the first week. But I imagine that it is very seldom so long protracted.

* L. c.

98. If the nature of this eruption is carefully considered, it must appear evident that it differs very widely from erysipelas, of which Sydenham * and Meza † considered it as a species; and from the scarlet eruption, to which it was referred by Sauvages ‡, as Lieutaud and Vogel had already remarked. I can much less assent to the opinion of Schacht, who imagined that the nettle-rash does not differ from the red miliary eruption, excepting in the size of the spots. Nor will it ap-

How it differs from
other similar e-
ruptions.

pear surprising that this otherwise judicious physician ranked the present complaint amongst the severest ones, contrary to the opinion of others.

* L. c.

† *Compend. med. pract.* fasc. i. cap. xvii.

§ clvi.

‡ L. c.

|| *Instit. med. pract.* c. xi. § vi.

THE CURE.

99. In general the acrimony of the fluids requires diluents and correctives; any indigestion that may be present, gentle and antiphlogistic cathartics; and the retention of the perspirable matter in the cutaneous vessels, gentle diaphoretics. Sydenham, who considered this eruption as an erysipelatous one, recommended bleeding and frequent purging. But, unless there be present great heat of the blood, or violent fever, or great fulness of the vessels, it is superfluous to let blood, and perhaps even injurious. I would more readily agree with Sennert, who, after bleeding, if any of the above-mentioned causes required it, proposes purging the belly by means of tamarinds, myrobolans, and rhubarb, and next recommends subacid alteratives, emulsions of the cold seeds, and, lastly, bathing in tepid water. We must, however, observe

The general indication.

caution in the employment of purgatives, that we may not check the operation of nature, attempting a critical expulsion of the noxious humour through the pores of the skin. It is proper, therefore, to withdraw the fomes of the disease gently, and *per epicrasin*, by means of antiphlogistic cathartics. It is wonderful how effectually the cause of this disease, especially when it returns and proves obstinate, is removed in this way. In slighter cases, or when the eruption is not accompanied with fever, but with troublesome itching and acrimonious heat, nothing is found more salutary than immersing the whole body, or the parts particularly affected, into the cold bath. Thus the acrimony is corrected, the phlogosis abates, the stagnant humour is resolved, and passes off by the perspiration. With the same view we employ gentle heat of the bed, rest, and the copious drinking of an infusion of alder-flowers or tea. But, if nitre, roob of alder-berries, and syrup of rasp-berries, or such like, be added to it, its efficacy will be increased.

THE ESSERA, OR PORCELAINÉ OF THE FRENCH.

100. That eruption which resembles the figure and size of the leaves of the plant, called by the French *Porcelaine*, and by us *Portulaca*, seems to constitute the *essera* of Sauvages and Sagar, and differs from the former merely in the size of the spots. I am therefore of opinion, that it ought to be considered only as a variety of the nettle-rash; for in other respects both eruptions agree intirely. Those who establish in it a new genus of complaint *, affirm, that the difference consists in the *essera* being intirely void of itching. But I very much doubt that this is uniformly the case; and, if it ever is, I do not consider it as affording a sufficient distinction between it and the nettle-rash.

* Sauv. cl. iii. ord. i. gen. ix. Sagar, cl. x. ord. i. gen. ix.

CHAPTER VI.

OF THE ESSERA OF VOGEL.

101. As I observe a species of *essera* *, described by Vogel, not unfrequently occurring in his country, which completely differs, not only from the complaint to which others have given this name (100.), but also from other exanthematic eruptions of this class; I cannot pass it over in silence, although it is of very rare occurrence among us, and is probably altogether overlooked by many physicians here.

* L. c. § clvii.

102. But this species of *essera*, according to the very ingenious author, “ exhibits broad, distinct spots, of a shining red colour, smooth, hot, and itchy, and chiefly affecting the hands and face.” The eruption takes place both with and without fever. When it is combined with fever, the fever observes the type of an ephemera, and is attended with pains of the back and head, together with vomiting. It is preceded by shivering, succeeded by heat and sweating; and is resolved on the third day by sweat and a copious discharge of urine.

103. The spots are very wavering and fugitive, sometimes appearing and sometimes not. They are most abundant upon the hands, when covered with the bed-cloaths; but when the cloaths are removed, they again disappear. Sometimes, however, the reverse of this takes place, or they become more conspicuous in the cold, in consequence of the perspiratory matter being checked, and they disappear in a warm temperature, being dispersed along with the perspiration. Nor is their striking in attended with such danger. On the third day, at farthest, they become discoloured and pale, immediately previous to the desquamation taking place.

104. The eruption generally comes on spontaneously, and alone. Sometimes it precedes bilious fevers. At other times it appears interposed among the variolous pustules when they are drying. This eruption is said to appear particularly in summer and winter; and when a person has once laboured under it, he is very apt to a return of it. With respect to the cure; a gentle diaphoresis, and covering up the patient with the bed-cloaths, are said to be sufficient. It is certainly a very slight eruption, and scarcely requires medical aid; but that which Sennert has described clearly corre-

The eruption
spontaneous,
and some-
times secon-
dary.

The cure.

sponding with the nettle-rash, does not agree with the present, excepting in name; whatever Vogel may think to the contrary.

CHAPTER VII.

CONCERNING THE PEMPHIX OF MODERN AUTHORS;

OR,

THE MORBUS PHLYCTÆNOIDES *.

105. THIS disease has derived its name from the word *πемφιζ*, signifying a vesicle. In it great blisters, generally of the size of
 Its description. filberd-nuts, sometimes greater, seldom less, full of yellow serum, exciting great heat and itching, disfigure various parts of the skin, and continue for several days until, on bursting, they pour out the serum, frequently leaving blackish red spots, and scales on the scarf-skin, surrounded with a black colour. Sometimes they break out all over the body, occasionally only in particular parts, especially on the face and neck. They are generally accompanied with fever, although they have also been sometimes observed without it †.

* Synonyms. The *Pemphigus* of Sauvages, *Nosol.* cl. iii. ord. i. gen. iii. of Cullen, *Gen. morb.* gen. 32. ; of Sagar, cl. x. ord. i. gen. iii. The *Morta* of Linnæus, *Gen. morb.* gen. i. cl. i. ord. i. The *Febris bullosa, pemphigodes recentiorum* of Vogel, *De cog. et cur. morb.* § clix. The *Exanthemata serosa* of Piso, *De morb. a seros. colluv. et diluv. ortis. observat.* cl. The *Febris vesicularis* of Macbride, *Introd. meth. in Theor. et Prax. med.* T. 2. l. i. c. xviii. The *Febris pemphigodes Ephem.* Germ. Dec. i. ann. viii. obs. 56.

† Sauv. l. c. Vogel. l. c.

106. This eruption also is twofold, there being one kind which is malignant, and of rare occurrence, another which is malignant, pernicious, and often epidemic, nay, sometimes, as we are told, even contagious; and this last is of much more frequent occurrence. The benign kind is either without fever, or is generally conjoined with a slight one attended with no danger *. But the blisters raise the skin upon the first, second, or third day †, nay, sometimes not till the fourth ‡; and when the disease is benign, within seven days they burst and dry, no pus or other fluid proceeding from them, but the skin being burned, as it were, into dirty blackish scales, falls off. If it be of the malignant kind, however, unless they fall off sooner, they do not arrive at their termination and crisis, until the fourteenth day. But the fever is said to observe the type sometimes of a synochus, not of the putrid kind, sometimes that of a putrid one; at other times it has been observed to resemble

It is of a double nature.

a remittent fever and trytæophya. It is usual for them to leave no traces or pits in the skin, except the blackish spots mentioned above (105.). Moreover, how far this complaint differs from the above ones, will readily appear by comparing their descriptions. It can neither be compared with the white miliary eruption, nor with the watery and chrystalline small-pox; for the spots in the former are generally no larger than millet-seeds, often even less; those in the latter, if they become confluent, are filled with some pus, which is by no means the case in the pemphix.

* I do not, however, pretend to affirm, that the disease is always benign when it is free of fever, or seems to be so. For in January 1760, when petechiæ prevailed epidemically in Fayence, and many were cut off, Bosch, a nobleman of near eighty years of age, was suddenly seized with some blisters of this kind in various parts of his body, without their being attended with fever. They contained a serous fluid, and on the epidermis being burst, the subjacent parts appeared first red, next livid and black. Without any other symptom, he died of these within four or five days. But the complaint neither affected such as sat up with him, nor was diffused among the other domestics.

† Cullen, l. c.

‡ Sauv. l. c.

107. Sauvages mentions his having seen pemphix prevail sporadically at least six times *.

The sporadic species.

Likewise, that one seems to have been sporadic which is described by Piso †. Thierry ‡ has given us an account of an epidemic and contagious species

of the disease, generally proving fatal, which prevailed among the soldiers at Prague in the year 1736. Some are of opinion that it was known to Hippocrates and Galen, because they find in the sixth book of the epidemics || mention made of what he calls *febris pemphigodes*. But what Hippocrates meant by this name, Galen himself has not attempted to determine; nor have his other interpreters sufficiently explained it. Hence they are still divided in opinion §. It is likewise a matter of doubt, whether we ought to refer to this disease the *febris synechia cum vesiculis per pectus et collum sparsis*, to which Morton ¶ has given a name, without describing it, contrary to what others have supposed.

The epidemic and contagious species.

* L. c. † L. c. ‡ *Medic. experim.* p. 134. || Sect. 1.
§ Caspar a Reies, *Elyf. incund. quæst. camp.* quæst. 68. n. 7.
¶ *Append. ad exercit.* 2.

108. Dr Cullen, no less distinguished for his erudition than sound judgment, seems to doubt whether the *pemphigus Helveticus* of Langhanf *, or the *third species* of ^{A doubt suggested by Cullen.} Sauvages, belongs to this disease, or rather to the angina ulcerosa, or maligna. The ill-conditioned blisters in every case affecting the mouth and throat, and the plan of cure that he employed with success in it, without doubt shew that that epidemic and contagious disease was

widely different from the pemphix, or at least was combined with ulcerous or gangrenous angina. The same author, also, is doubtful whether the *pemphigus indicus* †, as well as that of Brasil ‡, which Sauvages referred to this disease, really came under this head; for it must be owned, that our knowledge of them is not sufficient to determine our judgement. Lastly,

Whether or not it
be always symp-
tomatic.

he inquires whether or not the pemphix be always symptomatic? But he seems much inclined to adopt the affirmative. I am of opinion, however, that this can by no means be granted, as it has sometimes been found alone and unaccompanied with fever.

* *Act. Helvet.* vol. ii. p. 100. † *Spec.* 4. ‡ *Spec.* 5.

109. In either case, both when it is a symptom of some malignant and putrid disease, and when it is primary, it always portends danger, on account of the gangrene in which it quickly terminates. For such is the fervor of the blood, and acrimony of the ferous fluid, that to whatsoever part it is carried, it produces in it a burning sensation, like that caused by fire.

It is always dan-
gerous.

The cure.

Hence Piso, at the commencement of the disease, when the fever rages with great violence, without hesitation proposes bleeding and other remedies allaying excessive heat; nor

did the physicians of Switzerland disapprove of this antiphlogistic plan of cure, in the species of the complaint which was aggravated with aphthæ of the mouth and fauces. But in that which attacked the soldiers in the garrison at Prague, and proved fatal to all that were treated in any other way, the acetum bezoarticum alone was found serviceable *. For, after using it, all the patients are said to have recovered. Therefore all antiseptics, especially those mixed with acids, and, above all, the Peruvian bark, as in other putrid and gangrenous diseases, in this one also hold the first rank. The blisters, if they do not soon burst of their own accord, must be carefully opened, that the acrid humour may not penetrate deeper, or be forced inwards. But it is necessary to abstain from repressing, or drying, remedies, as we are informed by Vogel. If the disease be combined at the same time with ulcerous and malignant angina, we must treat the latter complaint with those remedies, which shall be recommended when we come to speak of angina.

* The acetum bezoarticum is composed in the following manner :

R Rad. Angelicæ,
Enulæ,
Imperator.
Hirundinar.
Zedoariæ an, drach. vj.

Herb. Scordii,
 Rutæ;
 Salviæ an. unc. i.
 Baccar. Junip. unc. sem.
 Flaved. cortic. citr. drach. vi. Minut. incif. affun.
 Aceti vin. opt. ℞ iij.
 Post fufficient. digest. exprimantur, et filtratum acetum ad ufum reponatur.
 Dof. ab unc. dimid. ad unam.

CHAPTER VIII.

CONCERNING MEASLES *.

110. IT appeared to Morton, that there was fuch a refemblance between the fcarlet eruption and measles, that he confidered each difeafe as differing in degree only, not in their nature. But it has already been fhewn (62.) what diftinction exists between thefe affections, and it will appear ftill more obvious on comparing each of their defcriptions. Others, on the contrary, the chief of whom are Rhazes, Riverius, and Sennert, confidered measles and fmall-pox as being very clofely allied, and therefore treated of them not apart, but

Whether measles differ from the fcarlet eruption.

The affinity between measles and fmall-pox.

together. There is a wide distinction, however, between them also, as will soon appear. But measles are a peculiar and distinct kind of eruption, which is forced to the surface by the fever, and consists of small, red spots, so uniformly preceded by and accompanied with catarrhal symptoms, that some have considered it as being an exanthematic catarrhal fever †.

The nature of measles.

* Synonyms. The *Morbilli* of Rhazes. *Lib. de variol. et morbil.* of Sydenham, Morton, and others. The *Rosolia* of Prosp. Martianus, in l. 2. epid. sect. 3. v. 20. The *Febris morbillosa* of Hoffman, *De febr. sect. 1. c. viii.* The *Rubeola* of Sauvages, *Nosol. meth. cl. 3. ord. 1. gen. 3.* The *Rosolia* among the inhabitants of Tuscany. The *Fersa* among those of Bologna, and in other districts of Italy. The *Rosacci* in Pavia. The *Rougeole* of the French.

† Hoffman, l. c. Gruner, *Morb. antiq.* p. 62.

III. Since their first introduction into Europe*, measles have been so hostile to mankind, that scarcely any one, or at least very few, if they live the usual time, escape being attacked with them, at least once during their life. But infants and young people are chiefly liable to them. Nay, the foetus itself sometimes does not escape the complaint; for instances are recorded by medical men of great reputation, from which it appears that infants have sometimes been born covered with

Almost every body liable to measles.

The foetus itself is sometimes attacked with the complaint.

the eruption †. Nor can any body who has once laboured under the complaint be insured against a subsequent attack, since it appears from certain authority, that the same person has fallen into the complaint a second, and even a third time. I am aware that several

The complaint
said to have at-
tacked the same
person twice or
thrice.

doubt its ever returning, particularly Rosen, who, in the course of forty years experience, never knew an instance of its making its appearance a second time ‡. But Morton, the length of whose experience was equal to that of Rosen, although he be inclined to doubt the fact, is obliged to confess that an instance of its returning a second time occurred to him twice in the course of his practice ||. The same thing is confirmed by a physician of most extensive experience and great celebrity in Florence, I mean Tozzetti, who affirms, that several persons, who to his knowledge had laboured under the complaint, suffered a relapse of it §.

* It is very probable that the measles were introduced into Europe along with small-pox from Africa. No one now questions its being a new complaint, and totally unknown to the ancient Greeks.

† Rosen. *Malad. des enfans*, c. xiv. p. 255.

‡ *Ibid.*

|| *Exercit.* iii. c. iii. p. 18.

§ *Prim. Raccolt di osservaz.*

p. 101. The same thing is confirmed by Schacht, *Inst. med. pract.* sect. i. l. 1. xii. and Meza *Comp. med.* fascic. i. c. xx. and De Haën. *Febr. divis.* vi. § vi. p. 106.

112. But, if any doubt still remained, it would

be intirely removed by the communication of Dubosque de la Robordiere to the authors of the Medical Journal. Other instances of their return. His words are as follow: " I have frequently seen measles recur in the same person, and in a short time, nay, often in the same month. While the complaint raged epidemically, in the year 1773, several of my colleagues observed the same thing; the measles, which occurred in the year 1777, fortunately supplied me with a fresh opportunity of confirming this observation. For then I found not a few children attacked with measles, whom I had already treated for the same complaint. And no one must suppose that this is peculiar to the place in which I live, as I have been informed by several of the first physicians in Normandy, that this is a very general occurrence there. And, among others, the celebrated Professor Spielman last year informed me of his having frequently been surprised at the recurrence of measles in the same person at Strasburg." In addition to these very ample testimonies, I shall add the observations lately made by the ingenious Ant. Laurence Genovesius, public physician in the town of Santa Cruz. In the year 1782, when measles raged epidemically, he found forty-six adults attacked with them, although they had already laboured under the disease, as he was assured by the physician who had attended them, and learnt from

the testimony of their friends, together with a comparison of the symptoms of each illness. Besides, he mentions sixteen other cases which he himself attended, when the complaint raged epidemically in the year 1770. He moreover tells us, that these persons did not fall into the complaint until others of their family had been affected, and that none of those were attacked who remained at a distance from the patients.

Their return generally owing to contagion.

* *Journal de Medec.* T. 48. p. 253.

† *Avvisi sopra la salut. umana*, vol. vii. lett. al Sig. Dot. Gio. Luig. Targioni. p. 267. to 272.

113. Hence it appears sufficiently evident that measles are occasioned by some peculiar miasma, and propagated by contagion. It moreover appears that the complaint is propagated from place to place, by infected substances or persons; and when it enters a family, it immediately attacks all living under the same roof, especially if they have not yet had the complaint. Therefore, some subtile virus is generally considered to be the cause of the complaint; and it is supposed to be introduced into sound bodies by the effluvia of the patients, or by the contact of infected substances. But it is denied by physicians of the greatest learn-

Their cause.

Contagion.

A subtile virus is considered as the cause.

Whether it is contained in the air.

ing *, that it is produced or contained in the air, because, if communication with the patients, or with infected things or places, be avoided, the measles itself are prevented. But, for the reception of the contagion, the body ought to be in a particular state, without which the virus is either not received, or, when received, becomes inert and harmless, or quickly passes out of the body without injury. But as it has been found by experience, that measles are more rife at certain times of the year, and during particular states of the air; it is therefore probable, that the fomes of the complaint † requires some peculiar condition of the air to be evolved and rendered active, whether it be supposed to exist in the air, or in surrounding objects, or in the bodies themselves.

A disposition of the body necessary to the complaint.

Certain times of the year, and particular conditions of the air, evolve the virus.

* Rosen a Rosenstein *Trait. de malad. des enfans.* c. xiv. p. 255.

† Formerly the miasmata, by means of which contagious diseases are introduced into sound bodies, were named by physicians *contagionis seminaria*; but the places and things concealing and fostering the seeds of the diseases, were named the *fomes* of the contagion. V. Fracast. *De contagiosis*, lib. i. c. iv. and vii.

114. Measles generally prevail universally and

epidemically, sometimes, however, sporadically and partially. They are therefore very

Their division into epidemic and sporadic.

properly divided into epidemic and sporadic. Morton, who has written at greatest length on this disease, generally considers the benign and genuine measles as sporadic, while he looks on the malignant and spurious

The benign and genuine kind, and the malignant and spurious.

kind as epidemic. But the disease, though sporadic, does not always deserve the character of benignity, nor ought the epidemic species to be always considered as malignant. For the complaint, as observed by Sydenham to occur in London, in the year 1670, was of the benign kind, although epidemic; as also that which prevailed in the year 1752 at Upsal. Hence, all kinds of the complaint, whether sporadic or epidemic, ought to be divided into benign and malignant, like other exanthematic diseases.

The regular and irregular species, and the anomalous.

Sydenham names the former regular, and the latter irregular or anomalous. But in the same manner as *genuine* and *regular* are synonymous terms for the *benign* kind, so are *spurious* and *irregular* for the *malignant*. Be that as it may, that species of the complaint seems to be better named *anomalous*, which departs very much from their common and regular course, as I shall hereafter illustrate.

115. But in every kind of measles, whether benign or malignant, three stages, or periods, as in the other exanthematic complaints, are observable. The *first* The three stages of measles. is named by Morton * the *apparatus efflorescentiæ*, by others the *stage of the contagion* †. In the benign and regular measles, it extends from the invasion of the fever to the eruption of the spots, which in the benign and regular disease takes place about the fourth day ‡, although others || mention that it may happen even sooner, namely, after twenty-four hours, or two or three days; nay, occasionally also somewhat later, or on the fifth day. But in the malignant and anomalous species, because the eruption happens sometimes sooner, sometimes much later, the duration of this stage must consequently be very indefinite. Sydenham § confines it to a shorter period than in the benign and regular species; while Morton extends it sometimes even to the seventh or eighth day ¶. But in the anomalous species of the disease, the eruption has Second Stage. been retarded even for twenty-three days **. The *second stage* is named by Morton *status morbi*, by others *stadium eruptionis*, or simply the *eruption*. It commences with the first appearance of the efflorescence, and lasts till it is completed. In the benign kind, it is generally

confined to the space of two or three days ; for then the fever, with however severe symptoms it is attended, is perfectly resolved, and disappears, together with the efflorescence. But in the malignant species it lasts longer, and sometimes continues of doubtful issue, because the eruption at one time appears, at another it does not, or appears imperfectly, remaining for seventeen, or even twenty days. The *third stage*

Third stage. is named the *crisis*, or *declension*, or *desquamation*. It begins with the discoloration of the spots, and terminates on their wholly disappearing, and a desquamation taking place ; at which time a diarrhœa generally supervenes, and in the benign kind is often salutary, causing the fever to very quickly terminate, and restoring all the functions to their healthy state within a few hours. But in the malignant and anomalous species of the complaint it is otherwise. For, on the efflorescence disappearing, the fever continues, but is aggravated, and many severe symptoms come on, by which the patients are cut off ; or it degenerates into tedious, chronic diseases, (as will shortly be shewn), unless timely aid be given.

* *De morbil.* p. 14.

† Sydenh. l. c. sect. v. c. iv.

§ Hoffman. l. c.

Raccolt. d'osservazion. p. 101.

† Rosen, l. c.

|| Mort. l. c.

¶ Targion. Tozzetti, *Prim.*

116. But before proceeding to the description of each kind, it ought to be observed, that generally *dreadful* and *convulsive coughs*, prevailing epidemically, distress the patients for some time previously, as if They are sometimes preceded by most distressing coughs. announcing the speedy appearance of measles. Sometimes also, about the time of receiving the infection, a very severe cough precedes the eruption of measles for at least fourteen days *. Sometimes measles are the forerunner of small-pox. For such as recover, in a short time after are seized with small-pox ; or, on the other hand, on the small-pox drying and falling off, measles take place : for frequently the diseases succeed each other at the same time †. Nay, instances have sometimes occurred of measles and small-pox being combined together in the same patient at the same time.

* Hoffman, l. c. sect. 1. c. viii. § 11.

† Störck, *Instruz. med. pratic.* T. 1. p. 304. Rosen, l. c. p. 261.

‡ De Hæen, *Febr. Divis.* divis. vi. § vi. p. 107. *et seq.*

THE BENIGN MEASLES.

117. I shall, therefore, begin with that kind which I have named *benign*, or *regular*. Almost

At what time of
the year they
chiefly prevail.

all writers having followed the excellent description of the disease given by Sydenham *, as it is found to convey a most accurate idea of it, I shall therefore, in my account of the disease, be regulated as far as possible by it. When they prevail epidemically, they begin in a favourable manner early in January, after which they gradually diffuse themselves, and rage with more violence. Towards the vernal equinox they attain their height. Afterwards they are gradually diminished, becoming daily less frequent and milder, until, in the month of July, they altogether cease. Nothing, however, prevents them from commencing their attack at other times of the year, proceeding in the same manner as I have described, and at length ceasing. They more frequently attack infants and children, and less frequently those who have attained the age of puberty and manhood.

* *Oper. sect. iv. c. v.*

118. Whether the disease prevails sporadically or epidemically, the patient at the beginning shivers and feels cold, as at the commencement of other acute fevers, and spends the whole first day between frequent vicissitudes of heat and cold. On the second day the fever manifests itself by

Description of the
first stage.

violent sickness, great thirst, a white, moist tongue, loss of appetite, a dry cough, heaviness of the head and eyes, and a constant inclination to sleep. Sometimes the patients are distressed with actual headach, especially adults; the throat is red and painful; there are pains in the loins; a constriction is felt in the breast; the respiration is quick, and accompanied with sighing; the pit of the stomach, and whole epigastrium, are affected with a troublesome sense of weight; the eyes are red, and water, and there is occasionally a sense of pricking in them; they are also so impatient of light, that the person can scarcely suffer them to be opened. Likewise, a thin, acrid fluid distils from the nose, causing frequent sneezing. Nor is it uncommon for a copious discharge of blood to take place from thence, by which the head, eyes, and throat, are considerably relieved. On the third day all these symptoms quickly increase, attended at the same time with some trembling and starting of the hands, intense heat of the skin, sometimes also delirium and frequent anxiety. At times, too, watching is present; or, if there be any comatose affection, it often resembles that species of it called *coma vigil*. Next comes on nausea, and frequent vomiting of the ingesta; but instead of the vomiting there is more frequently a diarrhoea, frequently a bilious one, occasioning greenish stools, especially during dentition. And

this looseness, when it supervenes, checks the vomiting and nausea. Nor is the eruption impeded by it, if it be not excessive, and provided a proper regimen be employed. In other patients, however, during the whole course of the disease, the belly is bound, and occasions no inconvenience. In the mean time the patients become weary, peevish, and morose. Some of them also are wasted with sweats. Rosen † remarks, that during this stage sometimes eclampsia supervenes; the approach of which is indicated by excessive sweating, and a scanty discharge of urine taking place. At length the eye-lids and the whole face swell, and the eyes are red and hot all round; which happens as the eruption is about to take place. And these symptoms, if the eruption does not occur towards the end of the third day, are prolonged without any remission to the fourth, seldom to the fifth.

* De Haën, *Febr. Divis.* p. 104.

† *Des malad. des Enfants*, c. 14. p. 261.

119. Next upon the forehead and rest of the face small red spots break out, like freckles; or rather small, red, distinct papulæ, like flea-bites, which gradually increasing in number and size, and being collected into clusters, cover the face in various manners. But these red clusters

Description of the
second stage.

consist of small pustules, situate near one another, and rising a little above the surface ; their prominence being perceptible, not only to the touch, but also to the eye, on narrow examination. From the face, which they first attack, they gradually proceed to the breast, back, belly, arms, and legs. And generally those which are on the body and extremities are broader, and very thickly spread, discovering themselves rather by their redness than prominence ; although some of them, if properly examined, seem to render the skin somewhat irregular and rough. According to the diversity of the patients constitutions, and the nature of their blood, they are said by Hoffman * in some patients to be broader, in others less so ; in some red, or pale, or even approaching to a leaden colour. Frequently, on the eruption taking place, most of the severe symptoms are mitigated ; nay, they sometimes cease altogether. In particular, the sharp heat, pain of the loins, delirium, spasms, and vomiting, are allayed. Sometimes, after the eruption has appeared, much bilious vitiated chyle being rejected by vomiting, affords remarkable relief. But the cough,—which generally continues from the beginning to the end of the disease,—if it is not aggravated, as it often is from the measles breaking out in the larynx and trachea †, remains the same, and generally occasions an expectoration of much mu-

cous matter, attended with relief to the breast. Besides the cough, the difficulty of breathing, the redness of the eyes, and their impatience of light, and watering, together with the drowsiness and loathing of food, though in a milder degree, not unfrequently remain for some time, but ere long disappear intirely. Nor is the fever always mitigated, until the fervor and phlogosis of the pustules subside. On the sixth day, or towards the end of it, the pustules on the forehead and face become pale, the swelling of it subsides, and the cuticle drying and breaking, the face becomes rough. In the mean time

The beginning of
the third stage.

the spots on the rest of the body appear very broad and red. On the seventh day the fever nearly ceases, and the measles disappear on the face. On the eighth they leave the rest of the body, being succeeded by an universal sweat, or a great discharge of urine, or even a looseness, generally affording relief. Sometimes, however, according to Morton, it happens that this looseness is apt to degenerate into a symptomatic diarrhœa, attended with tormina, colliquation, and terminating in death. On the ninth day the patient is in good health, being generally free of fever. The face, breast, limbs, and other parts, seem as they were sprinkled with flour, the pieces of the cracked and dry skin separating and falling off in scales, and leaving

an universal itching, but no blemish, or vestige. But it sometimes happens, that on the measles disappearing at the time I have mentioned, although consistent with the usual laws of the disease, the fever is suddenly aggravated with difficult breathing, and more troublesome cough, preventing any sleep, either by day or night. That does not always happen from the metastasis or striking in of the measles. It may be more frequently ascribed to the meassy matter being imperfectly forced out to the skin; on which account its remains being carried to the lungs readily excite peripneumony. Sydenham supposes such persons in particular to be subject to this misfortune as have employed a regimen and medicines of too heating a nature, and, by agitating the blood too much, have prevented the whole of the morbilious matter from being secreted and forced to the surface. From the remains of this matter being left in the system, not unfrequently slight cough, slow fever, and looseness, succeed to the drying of the eruption. While, according to Tissot, these persons remain free of such inconveniences, and recover perfectly †, who, during the remainder of the disease, or as it draws to a close, experience some remarkable evacuation, as vomiting, or looseness, especially of the bilious kind, or a great discharge of urine, or copious sweating. For, by means of these excretions, the

fever is altogether resolved, and the patient recovers his strength. He grants, however, that sometimes, merely by the insensible perspiration, the remains of the disease are completely dispersed.

* Hoffmān.

† Not only the skin, throat, nostrils, eyes, and larynx, are affected with measles; but it has likewise been found, on anatomical dissection, that the very thoracic and abdominal viscera are at times covered with similar pustules. Lieutaud. *Prec. de Med.* l. c. p. 604.

‡ *Avis. au peupl.* P. 1. c. 14. § 223.

THE DIAGNOSIS.

120. Such is the history of the benign and regular measles, from which the diagnosis naturally flows. At first, however, before
How the measles may be foreseen. the eruption, it is somewhat difficult to foresee the complaint. For, during the *contagious* stage, it is not easy to say whether measles, or some other eruption, is about to appear. It is then proper to inquire, whether the prevailing epidemic favours the production of measles; whether or not the person attacked with the fever has ever laboured under measles before, or any of his relations labour under it; or whether he has had any connection with such as are affect-

ed with it; and, lastly, whether or not the person labouring under the fever is affected with redness of the eyes, watering, coryza, sneezing, pain or heat of the throat, dry troublesome cough, and drowsiness. If these symptoms concur, the approach of measles may be more certainly conjectured. But it must not be supposed, that on the appearance of the spots all doubt is removed. For the first appearance of the measles has so great a resemblance to the small-pox, that at first sight it cannot be ascertained which of the diseases it is. If there is any difference, however, Lieutaud * supposes that it consists in the pustules in measles, collected into clusters, being more numerous than those even of the most confluent small-pox. Besides, the measles, although they be prominent on the face and forehead, on the breast and extremities are distinguished rather by their redness than elevation: in which respect they differ from a recent eruption of small-pox, which are uniformly protuberant, and quickly attain maturity †. It is likewise peculiar in measles for the heat and fever to arrive at their height sooner, and for the symptoms to be generally more urgent than in small-pox ‡.

The measles and small-pox appear very similar at the commencement of the eruption.

How they are distinguished.

* *Præc. de Med.* l. 2. sect. iv. p. 603. † Sydenham, l. c.

‡ Tiffot *Avis. au peuple*, P. 1. c. xiv. § 222.

121. Besides, nature has placed a bounding line between them, which some have attempted unsuccessfully. They differ from

The distinction
between measles
and small-pox.

one another, 1. Because the morbilious virus is not so caustic nor ulcerating as the variolous; 2. Because it is more hostile to the lungs; 3. Because it produces much smaller pustules; 4. Because the latter never generate pus, but dry, and fall off in scales, without leaving any ulcer, or cicatrix; 5. Because they prove more injurious to the scarf-skin than to the skin itself; 6. Because they are attended with catarrhal affections, namely, cough, coryza, sneezing, and watering of the eyes, contrary to what happens in small-pox; 7. Because hemorrhages from the nose, or uterus, more frequently supervene in measles, even at the beginning*, than

How they differ
from the scarlet
eruption.

in small-pox. But there seems to be a closer affinity between the measles and scarlet eruption, of which we have already spoken. They differ, however, from it, 1. Because they are raised above the skin; 2. Because the catarrhal affections, just now mentioned, are, as it were, the peculiar and invariable concomitants of the complaint; 3. Because, in measles, there are intermediate spaces, of a white colour, and of an oblong, square, or irregular figure†; while, on the other hand, in the scarlet eruption, an uniformly plain and con-

tinued redness affects almost the whole skin, or at least covers it with broader spots, like an erysipelas; 4. Because the epidermis separates and falls off like flour, while in the scarlet eruption it comes off in pieces; 5. Because the leucophlegmatic swelling, which supervenes in scarlatina, on the twenty-first or twenty-second day, is either not observed in measles, or, if it ever does take place, it appears immediately at the conclusion of the third stage. Lastly, I shall not omit to mention in what manner measles may be distinguished from petechiæ and the miliary eruption. They differ from the former in the elevation of the epidermis, and in the size and variety of the appearances which the spots put on; from the latter, because they appear on the face, and shew no conspicuous fluid in the pustules, while the miliary eruption scarce ever affects the face, and contains a sensible fluid, which is sometimes even converted into actual pus.

* Hoffm *De febr. sect. i. cap. viii. § ii.*

† Morton, l. c.

THE PROGNOSIS,

122. The benign and regular measles in childhood and youth are generally free of danger, and terminate successfully, unless they are improperly treated. In adults, however, the complaint is somewhat more severe, and occasionally dan-

gerous. Such persons as have laboured under chronic illnesses before being attacked with measles, are more severely affected, and run greater risk *. Measles appearing at the proper and regular time, and attended with a prominent eruption, afford a favourable prognosis. On the other hand, the premature eruption of them, or its being too long retarded, give reason for suspicion. On the eruption appearing, if the patient is relieved, has his strength, and becomes more chearful ; if the spots are of a paleish red ; if the skin be uniformly hot and somewhat tense ; we may draw a favourable conclusion †, and *vice versa*. The eruption being protracted beyond four days, is a bad sign. But if its colour verges on black, and the skin at the same time seems to grow flaccid, it denotes the approach of gangrene and death. Such as have indulged in heating medicines, and particularly adults, are more liable to this termination. The sudden striking in of the pustules, from exposure to the cold air, ought always to excite apprehension, on account of a metastasis taking place. For it has sometimes occasioned death ‡ ; a diarrhœa, however, coming on, sometimes prevents its pernicious consequences ||. If the pustules at the proper time, that is, on the third or fourth day after the eruption, begin to become pale, resolved, and dry, and at the same time the fever is mitigated, and the respiration and

expectoration become freer, it is a proof that the disease will be successfully resolved. A constant cough, together with looseness and restlessness, is unfavourable §. For it may induce inflammation of the lungs, especially when the eruption has been accelerated by a warm regimen, and at last terminate in consumption ¶. Excessive hemorrhages are attended with much danger **. Likewise copious and constant sweating in adults is unfavourable ; for on the slightest occasion the measles are forced in ††. Those who die of the complaint, especially children, are cut off, after the disappearance of the eruption, on the the ninth day commonly, being oppressed with infarction of the bronchia and lungs ‡‡ ; or they are suddenly suffocated, especially such as have employed a heating regimen ||||, with peripneumony. The diarrhœa, which comes on after the drying of the measles and the disappearance of the other symptoms, if it continues to be protracted for several weeks, exhausts the strength §§, inducing consumption, and lastly death ¶¶. In other patients, after the last stage of measles, a slow fever springs up, accompanied with a fatal swelling of the abdomen. In such persons, the mesenteric glands, after death, are found obstructed and enlarged, and the lungs full of tubercles ***. In some patients, a slight cough remains, together

with hoarseness, and is apt to terminate in phthisis †††.

- * Hoffman, l. c. *Enarrat. morb. obs. i.* † Störck, l. c.
 ‡ Hoffman, l. c. *Observ. obs. 6.* || *Id. ib. obs. 2.*
 § *Id. l. c. sect. i. c. viii. § v.* ¶ Lieutaud. *Prec. de Méd.*
 l. ii. sect. iv. p. 604. ** Hoffman. l. c. *in cautel. § vi.*
 †† *Id. ib.* ‡‡ *Id. ib.* ||| Sydenham, l. c. §§ *Id. ib.*
 ¶¶ Hoffman, l. c. § vi. *** *Id. ib.* ††† *Id. ib. § v.*

123. Having given as faithful a history of measles as I could, it now remains to investigate the nature of the morbillous poison (113.), in order the more certainly to establish a proper plan of cure. And indeed it at once appears possessed of a peculiar and warm acrimony, as it is called, on account of its producing violent irritation and inflammation in whatever parts it attacks, and constantly exciting them to more copious secretion and excretion, according to their particular organic structure. Hence proceed the redness, heat, impatience of light, and watering of the eyes; the coryza, sneezing, and catarrh in the nose; the thirst, heat, swelling, and difficult deglutition in the fauces; the dry, constant cough, hoarseness, quick and difficult respiration, and straitening of the chest, in the larynx and lungs; the loathing of food, nausea, vomiting, sense of weight and anxiety, in the stomach; the

Why it affects certain parts.

diarrhœa, gripes, &c. in the intestines. But whether those parts are affected in particular, because the

virus is inhaled by the mouth and nose, as some think *, or whether it rather settles in these parts on account of Two opinions that prevail. the affinity and sympathy between it and the lymphatic and mucous fluids, I leave every one to judge for himself. Those who adhere to the first opinion, principally allege in support of it, that persons inoculated for the disease have generally been free of the cough, or at least that it has been much milder than usual in them. Those who adopt the other, observe that most other poisonous miasmata are also received by the mouth and nose, without those parts being remarkably affected. Be this as it may, it is beyond all doubt, that The poison is mixed with the blood. that virus is mixed with the blood, and excites a very violent fever : until being gradually disengaged, it is carried to the surface of the skin, and deposited here and there under the epidermis, from whence it is at length dissipated by a desquamation taking place, and by the sweat and insensible perspiration. It is easily dissipated. Hence another property of this virus is manifested, namely, its very subtile and volatile nature. And that it really possesses this disposition appears It is therefore volatile and subtile. moreover, 1. Because the pustules, which it occasions, although they be red and partake of a certain degree of inflammation, never

terminate in suppuration ; 2. Because a metastasis and striking in of them is liable to take place ; 3. Because the blood becomes so fine and thin, that not only during the first stage of the complaint, but even during the second and third, frequent and copious hemorrhages occur, and sometimes cannot be checked.

* Rosen, l. c. p. 262.

THE

CURE OF THE BENIGN MEASLES.

124. Experience has very often shewn, that the benign and regular measles are generally brought to a favourable issue merely by the power of nature ; nay, that they are sometimes so mild and easy, as scarcely to confine the patient to bed. On the whole, therefore, if the disease appears benign and regular, if the fever is not violent, if there is not great constriction at the chest, if the patient appears otherwise healthy, and not affected with any former taint, the business may be intirely intrusted to nature, only it is proper to prescribe a temperate regimen with respect to diet, neither too warm nor too

Nature alone is often sufficient to effect a cure.

When and how they are to be left to nature.

cold, as both extremes are hurtful. The diet ought to be extremely light, as the loathing of food points out. For it is sometimes so great, that the patients are forced to abstain intirely from food for several days. On the whole, the drink may consist of barley-water, or that of rice, or water-gruel, which is diluent, demulcent, cooling, and slightly nutritious. With the same view are employed, whey, the expressed juice of barley, emulsions of sweet almonds, acidulous, sweet fruits, as prunes, cherries, pears, apples, and the like. During the first days of the complaint, the patients may occasionally leave their bed, that they may not become too warm, but they ought to beware of the cold air, and remain at rest, twice or thrice a-day drinking an infusion of alder-flowers, or tiel-flowers, or wild poppy, to assist the efforts of nature. But when the eruption first appears, they ought to betake themselves to bed, and remain at rest in a gentle and uniform heat. For as the morbillous matter is more inconstant and fleeting than the variolous, there is more occasion for employing caution in measles than in small-pox, to prevent the matter from striking in. Hence we must remove all those causes which are apt to agitate either the mind or body. None but the necessary attendants ought to remain near the patient. The rays of the sun should be excluded, by darkening the windows,

that the eyes may not be dazzled with the glare of light. With the same view, as well as to prevent the air from becoming vitiated with noxious vapours and smoke, at night the chamber should be lighted with a small candle only. On the eruption having begun, and after it is perfected, the patients ought to confine themselves, two, three, or four days to bed, that the morbid fomes may be more easily dissipated through the pores of the skin: but the chamber ought not to be hotter than usual, nor ought the patient to be covered with a greater number of bed-cloaths. When the pustules disappear, and the desquamation commences, while at the same time the other symptoms are removed, if a spontaneous looseness is not present, the belly ought to be purged once or twice with a gentle cathartic of manna and tamarinds, or the like; and the convalescents must gradually have recourse to their usual regimen. After the desquamation is finished, the patients may again be allowed to get up in the day-time, provided they carefully avoid the cold air. For, if the cutaneous perspiration is suppressed, either a dangerous asthma, or a very obstinate cough, or a colliquative diarrhœa, or a leucophlegmatia *, are the consequence. During the whole course of the disease, if the belly is bound, which often happens in the mildest measles, it may be occasionally relaxed, without

injury, by employing injections alone, if it be necessary.

* Störck, l. c. p. 307.

125. But all cases of measles, although of the benign kind, are not of one and the same disposition, especially in young people, or adults, in whom frequently a combination of causes, or greater force of the poison, or a particular habit of body and condition of the fluids, or difference of age and manner of life, occasion not only greater violence of the disease, but make it exhibit certain severe symptoms in each stage, which are neither obviated sufficiently by nature nor regimen alone, but require the employment of other aids. As in the first stage, therefore, the fever is sometimes very violent, attended with a hard and strong pulse, great oppression at the chest, troublesome cough, and other symptoms equally severe, as a comatose affection, pain of the throat, inflammation of the eyes; in that case blood ought to be let once, in a quantity proportioned to the patient's strength, and even repeated, if the first bleeding has not sufficiently broken the force of the disease *. There is seldom occasion for a third bleeding, as Lieutaud † informs us, by whom numerous bleedings in this stage are condemned as useless,

When they require the assistance of art.

When there is occasion for bleeding.

or even hurtful. But in adults, although the other symptoms mentioned be wanting, if symptoms of plethora be present, Hoffman advises it to be let during the first days of the complaint † ; for, in consequence of diminishing the fulness of the vessels, he is confident, with good reason, that hemorrhages are prevented, anxiety and restlessness allayed, and the eruption facilitated. Nor is Morton himself averse to bleeding, when there is great plethora, or a violent hemorrhage, or any other severe symptom present ; although he denies in general the propriety of bleeding in this stage, before the eruption of the measles.

* Tiffot, *Avis. au Peuple*, P. i. § ccxxy. n. 1. Störck, T. i. p. 306.

† *Prec. de med.* l. 2. p. 604. 605.

‡ L. c. *Observ. clin.* § 1.

126. But when the indication for bleeding is not so evident, or, after blood has been let, the symptoms remain unchanged, it is

The remedies
which supply
the place of
bleeding.

the business of a judicious practitioner to try correcting and antiphlogistic means, as copious draughts of a ptisan, with nitre, honey, and vinegar, or of whey slightly tinctured with tamarinds, or cream of tartar, before prematurely having recourse to bleeding, or proceeding to a repetition of it. The milder and cooling injections alone frequently

allay the excessive heat of the blood, and the quickened motion of the fever. Tepid bathing of the feet and legs occasions revulsion from the head in a remarkable degree, and in this manner relieves the headach, drowfiness, eclampsia, inflammation of the eyes and throat. It also occasions universal relaxation of the skin, and prepares it for the reception of the eruption. Likewise the pain of the throat and cough, and the oppression at the chest, are wonderfully relieved by inhaling the vapour of warm water *, in addition to different kinds of demulcent and oily linctuses, as well as pectoral and anodyne drinks. But, as in every stage of the disease heating remedies prove hurtful, by rendering the matter more acrid and subtile, by increasing the heat and anxiety, and exhausting the strength, so those which are too cooling, and prepared with nitre, are considered by Hoffman as being not a little suspicious † ; because they retard the eruption, and the morbillous acrimony, by being retained in the system, threatens the viscera with sphacelus or gangrene. The physician, therefore, must be cautious in the employment of refrigerants, that he may not exceed bounds, and check the necessary effervescence, which nature employs in this stage to force out the morbid virus.

* Tiffot, l. c.

† L. c.

127. The belly, also, when it is unusually bound, and much more so if the patient has not had a stool for several days, as it

The belly, when bound, is to be loosened by employing an injection.

increases the anxiety and restlessness, must be loosened with a gentle and emollient injection, or even a very mild cathartic. But our practice must be more decided, if the measles be combined with a

Sordes in the *primæ viæ* require being removed.

colluvies oppressing the *primæ viæ*, which requires being removed. We must inquire, however, into the matter, so as to become certain of its presence.

White tongue, nausea, and vomiting, fallacious symptoms.

For the white tongue, nausea, vomiting, sense of weight in the epigastrium, and anxiety, which are otherwise esteemed symptoms of gastric colluvies, in the contagious stage of the disease, are altogether equivocal; as they may be effects of somewhat greater violence of the fever, and a derangement of the nervous system induced by the morbillous virus, unconnected with any dyspeptic origin. In which case every person must perceive, that the white colour of the tongue arises from the febrile heat, the nausea, vomiting, anxiety at the præcordia, and other symptoms, merely from spasms of the stomach, duodenum, and diaphragm, which is a mark peculiar to all the exanthemata, in which most of these symptoms, on the eruption at length taking place, that is, on their material

cause being forced to the skin, usually disappear. Therefore, that we may not improperly have recourse to emetics, or cathartics, in that case we must carefully inquire if the measles be combined with symptoms more certainly indicating the presence of such a colluvies; namely, if there be present a bitter taste of the mouth; if the matter rejected by vomiting resembles acid phlegm, or yellow, green, or black bile, or other corrupted excrementitious matter; if the preceding manner of living, or season of the year, were such as to favour the generation of fordes in the stomach; if crudity, dyspepsy, anorexia, and bound belly have preceded; if the breath be fetid; if the face or urine appear like those in icterus; if what has been passed shews a putrid disposition; if the epigastrium and hypochondres are swelled; or if the intestines are distended with flatus and boryorygmi, or if tenesmus be present. If from these symptoms it is more certainly judged that a colluvies is present in the *primæ viæ*, we must endeavour to expel it as quickly as possible. The vomiting, therefore, which the ingesta occasion, ought to be gently promoted with warm water sweetened with honey, or with a slight decoction of carduus benedictus, or chamomile taken off warm; and if it is not sufficient, by the

More certain
symptoms of
gastric collu-
vies.

On a colluvies
being detected,
how it is to be
expelled.

addition of oil of olives : If this does not answer sufficiently, we may proceed to some gentle emetic composed of ipecacuanha *, or tartar-emetic. If there is no room for vomiting, or the colluvies oppresses the intestines more than the stomach, it is proper to employ a cathartic adapted to the patient's age, strength, temperament, and habit of body. Hoffman prescribes to be added to the syrup of succory with rhubarb †, half a grain of tartar-emetic, to increase in some measure the efficacy of the medicine.

* For a boy of two or three years of age, Rosen employs the following formula : *R* Ipecac. gran. iij sacchar. alb. gr. vi. *M. f. pulv. divid. in tres partes æquales.* One part of it must be given in a spoonful of water, or some agreeable syrup. If it produces no effect within a quarter of an hour, another may be given, and if in half an hour no effect is produced, even a third may be given, which to a certainty will occasion gentle vomiting. Children vomit with more ease and safety, on account of the laxity of their fibres, and their moist habit of body. Of the cathartics, the same author prefers those containing rhubarb. For a boy of three years of age, he thinks one spoonful of tincture of rhubarb sufficient, or half a drachm of rhubarb infused a night in three glasses of common water, and divided into three draughts.

† *L. c. Observ. clin. § i.*

128. If infants and children are seized with eclampsia, or convulsions, before the eruption, unless it soon goes off of its own accord, we must inquire whether it proceeds from excessive mobility of the nerves, or from dentition, worms, plethora,

How the eclampsia is to be cured.

or a difficult eruption. The excessive mobility is allayed by the *liquor cornu cervi succinatus*, given to the extent of a few drops, in an infusion of teil-flowers, or the *liquor anodynus mineralis* of Hoffman, or syrup of white poppy, added to the water distilled from black cherries or baum. These are also serviceable in dentition, especially if the intestines are cleansed by a gentle injection. But if worms are suspected to be present, they must be opposed by anthelmintics, as coralline, worm-seed, wild valerian-root, and the like, and expelled by evacuants, as syrup of peach-blossoms, and succory with rhubarb, and sweet mercury. If the presence of plethora be apprehended, it ought to be diminished by opening a vein, or by applying leeches to proper parts. But when the eruption is lingering, nothing can be better than exciting a gentle diaphoresis by an infusion of alder-flowers, or wild poppy, or a decoction of scorzonera, moderately warm, and drunk off occasionally; and in the mean time wrapping up the legs and feet in flannel drenched in warm water, and afterwards wrung, that the skin, being relaxed by the vapour of the water, may draw the morbillous matter to the surface. And sometimes blisters are not improper, when the languid vital action retards the eruption *.

* Forsten, *De Catarridibus*, p. 166. Argentorat. 1776.

129. Sucking children also are often liable to spasms and anxiety from a colluvies in the *primæ viæ*, or from the milk be-

In what manner spasms occurring in children while sucking are to be removed.

coming acid. It must be immediately removed by means of cathartics and injections. Hoff-

man prescribes the drinking of the sixth part of a grain of tartar-emetic, in two drachms of the water of teal-flowers *, to remove the collection

immediately. Hypochondriacal men,

What is proper to be done in hypochondriac & hysterical patients.

and hysterical women, labouring under measles, are frequently attacked with spasms, fainting fits,

difficulty of breathing, and a sense of suffocation, accompanied with constriction of the throat, and great anxiety at the præcordia; by which the eruption is very much retarded. The physician must beware of ascribing these symptoms to a gastric colluvies; as all medicines occasioning either vomiting or purging would be hurtful. For there is then occasion for antispasmodics and injections, partly paregoric, partly carminative. But when the catamenia or hæmorrhoidal discharge have stopped, or are about to break out, it is proper to open a vein in the foot. For by means of them a favourable eruption is shortly brought about †.

* L. c. obs. 4. † Hoffman, l. c. *Caut. et observ. clinic.* § iii.

130. So copious sometimes is the discharge of acrid humour falling upon the fauces, that, when it reaches the larynx, it not only aggravates the cough, which creates constant uneasiness, but also, by irritating the pharynx and œsophagus, frequently creates a desire to vomit.

What remedies ought to be employed when the acrid discharge from the nose falls upon the fauces.

This inconvenience is remarkably alleviated by mucilage of gum-arabic, or tragacanth, the expressed juice of rice, barley, or oats, taken frequently in spoonfuls; gargles of milk and an infusion of alder-flowers and honey, which prove demulcent and abstergent. The employment of these also affords remarkable relief to the pain and inflammation of the throat, which frequently occurs, especially when at the same time emollient and anodyne fomentations and cataplasms are applied externally. On account of the cough, which is usually very troublesome, not only in this stage, but in the others also, acids of whatever kind, whether taken in drink, or eatables, although they are given liberally in other exanthematic diseases, I am of opinion with Rosen, ought to be given sparingly and cautiously in this. In like manner, with a view to alleviate the cough, many propose soporifics. Sydenham, for many

The remedies calculated for the pain and inflammation of the throat.

Acids aggravate the cough.

Cautions with regard to soporifics.

reasons, every night, from the commencement to the end of the disease, used to administer dia-cordium. The followers of Sydenham afterwards used to do the same thing. But Morton is of opinion, that unless there be urgent necessity for it, we ought not to have recourse to such remedies. And if, on account of the cough, watching, and delirium, he sometimes grants that there is occasion for soporifics and opiates, he advises the sparing and cautious employment of them. Lieutaud employs the same caution; nay, he absolutely forbids infants the use of them. Tissot also makes many remarks on the impropriety of their use. For they increase the fever and comatose affections. It is therefore the business of a judicious practitioner to abstain from them in this stage, or, at least, if any thing seems to indicate them, as when an excessive looseness is to be checked, he advises the employing of them very sparingly and seldom, and always of the mildest kind. Almost the same thing may be

A remark on
blisters.

said of blisters. Hence, in the benign measles, during the contagious stage, they are generally rejected; and if they are ever to be admitted, it is in case of spasms, eclampsia, and violent coma threatening death. Sometimes, also, the troublesome cough has been observed to yield to no other remedy than blisters, by which the acrid humour,

obstinately adhering to the fauces, larynx, and lungs, is drawn out *.

* Forsten *De Cantharid.* p. 167.

131. On the first stage being finished, and the eruption now approaching, some things worthy of notice occasionally happen, of which I shall here briefly make mention. And first it may be observed, that although the patient remains quiet, and keeps up a gentle diaphoresis, nevertheless the eruption is sometimes longer of making its appearance, and goes on slowly. Our object is then, carefully to inquire whether this proceeds from plethora, or excessive febrile motion; or, on the other hand, from languor of the vital power. In the first and second case, diminishing the plethora, and correcting the febrile heat, by means of diluents and refrigerants, will accelerate the eruption. In the third case, however, besides the copious use of gentle cordial and alexipharmac drink, and the prudent application of blisters, already proposed (128.), camphor and musk hold the first rank. For by means of them the vital powers are roused, and the fluids surprisingly propelled to the surface. The succinated spirit of hartshorn, spiritus Mindereri, or a small quantity of wine, likewise have the same tendency. Some propose a

Some observations on the second stage. How to bring on the eruption when it lingers.

a gentle emetic, as rousing the vital power, and exciting sweating. But unless the colluvies of the stomach at the same time is to be drawn off, it will be better to omit it, and to excite the system by means of the milder and safer remedies, which I lately pointed out.

132. If the efflorescence, on striking out, appears sometimes red, sometimes pale, or shews itself only partially, and in succeſ-

What is to be
done in the case
of an irregular
eruption.

sion, or some spots appear red, while others appear pale, it must then be assisted with cordials and alexipharmacs. Camphor, in particular, is said to be very efficacious in this respect. With the same view also, we have recourse to the cautious application of blisters; although that remedy may seem better adapted to the malignant species, and to those cases in which there is great languor in the vital powers. But if the

What ought to be
done when the
eruption strikes
in.

eruption suddenly disappears, and there is reason to apprehend that the matter may occasion a fatal metastasis to some internal part, it must be called out by means of the remedies which I have already recommended in the case of a lingering and imperfect eruption; particularly copious draughts of an infusion of alder-flowers, camphor, musk, dry cupping-glasses, frictions, and, if the head is threatened, by means of epispastics immediately

applied to the legs or neck. Nay, some advise immersing the patient in the tepid bath. But to prevent it, the patient must be made cautiously to avoid cold; and care must be taken to prevent his being affected with grief, fear, or other sudden emotions of the mind.

133. If at this period of the disease great restlessness, or watching, be present, the patients must be composed to rest, particularly in the evening,

When it is proper to employ opiates and soporifics.

with syrup of diascordium, that a more complete and perfect eruption may take place. Nor does Morton, who in the first stage of the complaint reprobates soporifics and opiates, disapprove of them much at this stage, provided the respiration be free, and no apprehension of suffocation occur. Nay, when there is excessive looseness, he does not hesitate to employ paregorics. He then prefers the laudanum of V. Helmont, of which he prescribes three, four, six, ten, or twelve drops, according to the patient's age, until the looseness begin to be diminished. Most au-

thors, along with Morton, agree

How to moderate the diarrhœa.

that this evacuation ought to be moderated, but not stopped. With which view they employ also the white decoction, tincture of roses, milk more or less diluted with water, and the like. But Hoffman, as in this way he generally found the morbid matter to be ad-

vantageously corrected, rejects all astringents, and is of opinion that the intestines ought to be occasionally cleansed with demulcent clysters only*.

There are, besides, certain other symptoms, which, because in this stage they either increase, or continue to be extremely troublesome, require some relief; such are the cough, the redness and watering of the eyes, and frequent sneezing. I have already shewn (126. and 130.) how to alleviate the cough. In general, sweet

The remedies for the cough, watering of the eyes, & sneezing.

things, as syrup of marsh-mallows, maiden hair, violets, wild poppy, liquorice-juice, troches of marsh-mallow root, sugar-candy, and preparations of these, with the oil of sweet almonds, are celebrated as linctuses. But it is proper to observe moderation in their employment, that they may not occasion looseness, or increase it when already present. The redness and heat of the eyes are relieved by lotions of rose-water and plantain, either alone, or with the addition of milk, to which also is sometimes added some of the white troches of Rhases. The sneezing is either removed, or at least diminished, by tepid milk injected, or drawn, into the nostrils.

* L. c. observ. 3.

134. Lastly, in the third stage, or that of the drying or desquamation of the pustules, our

judgment of the disease is determined. In it, therefore, we may expect either a return of health, or death, or that the measles will pass into some other complaint. The health is restored by a gentle diaphoresis, or by a critical sweat. The approach of such a critical excretion is indicated by the pulse becoming more moderate, and the skin softer and moister. When these symptoms appear, it is sufficient to assist nature by giving copious drink. But if a diaphoresis, or sweat, does not come on spontaneously, or is slow of appearing, while there are no symptoms of a looseness being about to take place, as tension and alleviation of the hypochondres, and borborygmi in the belly, a diaphoresis ought to be excited by means of diaphoretic and warm drink, camphor, and other gentle means; and it ought to be kept up until the fever intirely cease. On the other hand, if the epigastrium be swelled, the hypochondres tense, the skin dry, and if there be tormina and borborygmi in the bowels; we learn that the solution of the disease will take place, not by sweat, but by looseness. But it occasionally happens, that this looseness supervenes so precipitately, that the belly is relaxed ten or twelve times in a very short time. We must then beware of

Concerning the changes of the third stage.

A diaphoresis, and sweat, when serviceable.

How it ought to be promoted.

the things which are found to check the stools, as they are generally critical and salutary.

Cautions concerning it.

We may conjecture that they are so from the strength remaining, from the patient's spirits being raised, the cough being mitigated, from the shining of the eyes returning, and from the swelling of the epigastrium and hypochondres subsiding. Sometimes the diarrhoea is accompanied with troublesome pains in the bowels. If these are not allayed

If it is accompanied with tormina, what ought to be done.

by the application of warm fomentations, they may be mitigated by means of an injection, or by theriac applied to the belly, or by giving an infusion of rhubarb, or whey with tamarinds added to it; or, which is safer, with a spoonful of oil of sweet almonds taken off occasionally, to free the intestines from the noxious matter remaining in them. But if the

When it ought to be checked.

looseness continues too long, and exhausts the strength, like a colliquative one, it ought then to be checked with the diascordium Fracastorii, laudanum, theriac, the white decoction, cascarilla, Peruvian bark, alkaline powders, &c *.

* Rosen, l. c. Lieutaud, l. c. Hoffman, l. c. § v *in caut.*

135. I have already observed (119. and 122.), that patients run the most imminent risk, nay,

about the ninth day, are suddenly suffocated, as it were, in consequence of the fever returning, after the disappearance of the eruption, with symptoms of peripneumony, or pleurisy. When

Cure of peripneumony supervening at the end of the third stage.

this happens, it is proper immediately to let blood from the arm, even in the youngest children, which Sydenham * affirms is always done with the most beneficial effects; to blister the back between the shoulder-blades, and the side, where the pain is felt, with cantharides; to give for drink abundance of water, with the addition of nitre, and to administer some camphor internally. We need not repeat the bleeding when the respiration and expectoration are at length rendered freer. Then, laying aside the camphor, it is proper to employ a decoction of barley, with honey, or whey, twice a-day throwing in an emollient injection, to keep the belly open.

Sometimes, however, neither the fever, nor the difficulty of breathing, nor the oppression at the chest, are

When the bleeding ought to be laid aside.

so urgent as to require bleeding. In that case, Tissot is of opinion †, that it ought to be omitted. In corpulent people, whose fibres are relaxed, and whose system abounds with lymphatic humours, the same author advises the application of blisters to the legs, and the internal administration of oxymel of squills. If these are neglected,

the patients either die of suffocation, or, in consequence of the lungs suppurating, fall into consumption. But such is the utility of bleeding, according to Sydenham, that by means of it even the diarrhœa, which supervenes in measles, is

The diarrhœa
also yields to
bleeding.

cured. For we thus remove from the intestines the morbillous matter, which, being carried thither, by its

acrimony excites the looseness. Lastly, in what manner we must remove the other symptoms, or how we must prevent the secondary diseases which succeed to measles, or remove them when present, I shall shew hereafter, in an express chapter, after treating of the malignant species: since such successions more frequently happen

How the secon-
dary complaints
may be prevent-
ed.

in it. I shall now only add, that most of these complaints are prevented, if the force of the fever be blunted at first by the anti-

phlogistic regimen † and diluents, and if the evacuations, which nature attempts, are gently promoted ||; and, lastly, if, on the fever disappearing, and the measles drying, the belly is purged with some gentle medicine, repeating it twice or thrice after an interval of some days, in order to gradually remove any remains of the morbid fomes still left in the system.

* L. c. Morton, l. c. Rosen, l. c.

† L. c. § 226.

† The simple and antiphlogistic method of cure employed by Sydenham, is defended by Dickson against Morton and Meade. See *comm. de reb. in med. et scient. nat. gest.* vol. xviii. P. 3. p. 401. I must not omit mentioning the plan of cure which Gontard adopted in a particular epidemic. See *Journal de Médec.* T. viii. p. 338. He considers measles as an erysipelatous inflammation affecting the internal and external parts. Hence his plan is directed to resolving it by bleeding, emetics, and demulcents. In this way he mentions having cured the complaint, when it prevailed epidemically in the year 1756; and, in confirmation of the fact, adduces histories of the cases treated by him. I find his method explained and recommended by Sauvages. But, with deference to his authority, I cannot help observing, that he appears to me to employ both bleeding, vomiting, and purging too much in this disease, which generally requires proper regimen only; and, if ever there be occasion for any remedy, it is not proper to have recourse to bleeding, vomiting, or purging, without deliberation, but to more generous means. || Tissot, l. c. § 224.

THE MALIGNANT MEASLES.

136. There are many symptoms in common to this and the benign species of the complaint, on which account they are generally described together; for the malignant species also is generally epidemic, seldom sporadic. It for the most part, like the benign kind, commences in January and February, and continues rife till the vernal equinox; after which it decreases successively, until, about the summer-solstice, or a little later,

They have many symptoms in common with the benign measles.

it disappears intirely. The malignant measles are described by Sydenham as having prevailed epidemically in London in the year 1674 *. They originate at one time from a preceding unhealthy state of air; at another time from other accidental causes, especially a warm regimen, or neglecting the proper plan of cure †, and follow the same course as the benign measles, being divided into three different stages, not dissimilar in most of the symptoms. Nevertheless there are certain symptoms peculiar to the malignant measles, by which they are distinguished from the benign.

* *Oper. sect. v. c. iii.* † Hoffman, l. c. c. viii. § v.

137. In the first place, in the malignant species the eruption appears either much sooner, or much later,—which is more frequently the case,—than in the benign kind; namely, before the third or fourth day, or after the fifth, sixth, or seventh, nay, sometimes after the eighth day. When the eruption, therefore, happens later, it is in consequence of the vital power from the beginning being so weak, as to require a longer time for secreting and expelling the morbillous poison. Hence, in the first stage, when it is longer, the symptoms are generally not very severe, nor do they so quickly come to a height, as in the benign kind. But, contrary to what happens in

Symptoms peculiar to the malignant species.

the benign kind, after the eruption, the strength being gradually roused, they all increase in violence; for, in the benign kind, several of the symptoms are rather allayed by the eruption. When the first stage, however, is shorter, and the eruption takes place sooner than usual, the disease generally begins with the very worst symptoms. The pustules, moreover, appear first, not on the face, but about the shoulders and breast, next on the rest of the body, or at least not generally, but in succession. Hence, as the first stage is generally longer than in the benign kind, the other is so likewise; not unfrequently it is prolonged, with doubtful issue, to the seventeenth, and even to the twentieth day*. Nor is the colour of the pustules uniform; for it is at one time bright, at another pale or livid, or from being red it becomes black, and the skin flaccid†. In the mean time, on the eruption taking place, all the symptoms are generally aggravated. The fever is increased, and is accompanied with a strong, hard pulse, frequent dry cough, which is almost constantly present, greater difficulty of breathing, panting, anxiety, oppression of the chest, a lancinating pain in the side, and sometimes convulsive motions. The skin being velligated by the morbillous virus, is suffused with redness, and there is a slight degree of moisture on it. The urine is of a deep colour. The throat

is painful and swelled ; and there is greater irritation in the eyes. Hence arise ophthalmia, angina, peripneumonia, pleurisy, and other inflammatory complaints †. Lastly, according to Sydenham ||, the malignant measles very seldom terminate in desquamation, the reverse of which is invariably the case in the benign kind. Sometimes a new eruption succeeds to the preceding one, or the miliary eruption, or petechiæ, supervene §. Moreover, on their drying and disappearing, much more frequently, and without any evident cause, the fever, cough, and difficulty of breathing, return, accompanied with more intense thirst and heat ; and fatal peripneumonies, or other acute diseases, are induced, which, if they do not quickly occasion death, are apt to pass into lingering complaints.

* Morton, l. c. † Störck, T. i. p. 314. ‡ Morton, l. c.
 Störck, l. c. || *Oper. sect. v. c. 3.* § Hoffman, l. c.
enarrat. morb. observ. i. et l. c. c. viii. § v.

138. From these symptoms the diagnosis between benign and malignant measles appears evident. On the whole, however, it must be recollected, that all the symptoms accompanying the benign measles are much more severe and obstinate in the malignant. The presence of the latter, also, is more certainly pointed out by extreme

Other diagnostic
 symptoms.

debility occurring at the commencement of the disease; by yawning and frequent stretching; by very great restlessness; sometimes coldness of the extremities; headach, and pains in the loins; vertigo; quick, irregular, and small pulse; thin, pale urine; in the first stage: in the second stage, by a great and stronger pulse; by turbid and deeper-coloured urine; more troublesome nausea and vomiting; painful deglutition; frequent and small, or irregular respiration; subfultus tendinum; drowsiness; alienation of mind; delirium; intenser redness of the eyes; hoarseness; distressing cough, almost threatening suffocation; immoderate hemorrhages; looseness; convulsions, and the like *.

* Hoffman, l. c. sect. i. c. viii. § v. Meza, *Comp. med. pract. fascic.* l. c. xx. § 189.

THE PROGNOSIS.

139. The prognostic marks already delivered (122.) may be transferred to this place, as they apply equally well to the malignant species of the complaint. But in particular the malignant measles, more especially when epidemic, are more fatal than the benign and sporadic kind. Hence their more tardy eruption is always unfavourable. Its being extended beyond three days is a bad sign, for the fever, which accompanies it, as it is more intense in the malignant spe-

cies, if it be prolonged too much, may excite very bad inflammations. Nor do we draw a more favourable prognosis from a slow eruption, returning at intervals. For it shews languid vital power of the system, attempting in vain to force out the matter. The colour of the eruption, also, when it is wavering, when it soon grows pale, or black, affords an unfavourable prognosis. On the eruption at length drawing to a close, or beginning to dry, if the fever does not remit, continuing equally severe, the patient is not free of danger *. The danger is increased by scorbutic spots, petechiæ, or the miliary eruption, being combined with measles; and still more if they supervene in the third stage †. But when the disease is imperfectly resolved, what remains of the morbillous virus occasions cough, dyspnœa, loss of appetite, chronic affections of the eyes, and other complaints; nay, frequently it lays the foundation of an obstinate diarrhœa, pulmonary consumption, atrophy, blear-eyedness, scrofula, sometimes anasarca, or dropsy ‡. But dropsy, anasarca, and strumous swellings of the glands, more frequently arise from the scarlet eruption, with which measles are sometimes confounded.

* Morton, l. c. † Hoffman, l. c. § v. ‡ Morton, l. c.

CURE OF THE MALIGNANT MEASLES.

140. Most of the remedies recommended in the benign measles (124. 125. et seq.) are applicable to the malignant also. Omitting the recapitulation of them, therefore, as being superfluous here, I shall only make a few remarks more strictly applying to the present species of the complaint. In the first stage, it ought to be the physician's chief care to confine the patients two or three days at least to bed before the appearance of the eruption, in order to relax the pores of the skin, and render them more palutous. But they ought neither to be covered with more cloaths, nor ought the temperature of the apartment to be greater than usual. Animal soups, and still more solid animal food, ought to be banished from the diet. It will be a better plan to confine the ^{The nature of the diet.} patients to gruel made of oats, barley, or rice, but of a weak kind, with sometimes a roasted apple, or milk gently boiled with three or four times its quantity of water, which may supply the double place of meat and drink *. I have already shewn (127.) when there is occasion to employ vomiting or purging. But it is proper to attend to the ^{Vomiting and purging.} particular epidemy which is prevailing, and to try with caution whether purging

proves serviceable or hurtful. With regard to bleeding in the first stage of the malignant measles; on account of the loss of strength, and the languor and smallness of the pulse, it is generally unnecessary. Morton was of opinion that for the most part it ought to be rejected. But here also the remarks which I have elsewhere delivered (125.) are applicable, particularly when the measles break out prematurely, and are preceded by very violent fever. I should look upon this to be such a case of malignant measles as Rosen thinks requires the employment of bleeding, although he appears to me to extend that remedy perhaps too much to all kinds of malignant measles. But what he has observed concerning the buffy coat, which he affirms always appears in the blood when drawn, does not hold invariably; for it is often found by experience to be wanting. When, however, the eruption is slow of appearing, in consequence of the languid motion of nature, Morton in preference employed gentle alexipharmacs, and cordials, that the system might be stimulated more powerfully to expel the virus. But caution must be used not to increase the heat of the blood. Besides infusions of teil-flowers, alder, or poppy, taken warm, if the eruption is too slow of appearing, some camphor, or succinated spirit of hartshorn, or spiritus Mindereri, or the

Bleeding in the
first stage.

Diaphoretics.

liquor anodynus mineralis of Hoffman, may may be occasionally given. For by means of them the strength not only is roused, but likewise the spasms, with which the system seems to be very much overcome in this stage, are excellently allayed. It is then also very advantageous to draw the matter to the surface by means of dry cupping-glasses, applied to the whole body, and occasionally repeated, by bathing the legs, fomentations, and synapisms. And it may not be amiss to have recourse to blisters likewise.

Dry cupping-glasses, fomentations, bathing, and synapisms.

* Syden. op. sect. v. cap. iii.

141. In the second stage, or after the eruption has taken place, as the fever, together with all the symptoms, becomes aggravated, the disease appears to Morton to assume an inflammatory nature.

Bleeding in the second stage.

He, therefore, proposes bleeding in this stage as necessary, although he rejects it before the eruption. In fact, at this period, either the head, or throat, or breast, or all these parts together, are affected more violently. As symptoms of inflammation, therefore, come on, why should not bleeding be employed? It is proper, particularly when the presence of peripneumony is suspected, although at the same time the measles appear of a beautiful red colour. Nay, if after the first

bleeding the respiration and expectoration do not become freer, causing an alleviation of the complaint, the bleeding may be repeated even a third time; in the mean time not omitting diluents, attenuants, and antiphlogistic and demulcent means, together with occasional injections. If,

Blisters.

nevertheless, the dyspnœa continues, or the head is affected, or delirium comes on, it becomes then necessary to apply blisters to the calves of the legs *. Morton also has great reliance on them, and applies them frequently, both to excite the strength when languid, and to promote the eruption when it is lingering, and imperfect, or wavering. It is proper, however, to know that the malignant measles, especially when prevailing epidemically, are rather putrid than inflammatory; in which case bleeding would be hurtful. That happened in the epidemic which prevailed in 1763 and 1768 at London, and has been described by Watson. Both in the first and second stage the pulse was quick, weak, and irregular, accompanied with great anxiety; there were frequent stools, and at length delirium came on, portending the patient's dissolution. On dissection the lungs and other viscera appeared sphacelated. Bleeding generally proved hurtful †.

* Störck, l. c. T. i. p. 309. 310. † *Med. Obs. and Inq. by a Society of Physicians in London*, vol. iv. p. 132.

142. But when the eruption proceeds slowly, occasionally coming and going, besides the remedies employed both internally and externally (140. and 141.), to draw the morbillous virus to the surface, *bezoartics*, as they are called, are recommended by many. Among these, powder of crabs claws, contrayerva-root, diaphoretic antimony, and the like, are enumerated. Hoffman recommends two in particular, the *bezoarticum minerale*, and the *fulphur auratum antimonii*, which he affirms have the effect both of exciting gentle sweating, and calling forth the eruption. By means of the former he sometimes found the belly to be relaxed without inconvenience. He advises a dose of the *fulphur auratum* to the extent of half a grain, or no more than a quarter of a grain, each time; regulating the quantity by the patient's age *. Likewise, when the measles are sometimes red, sometimes pale, still more if they retire in, we must without delay employ all the remedies which I have already proposed (131.). I have already mentioned (137.), that they are sometimes livid, sometimes black. When that happens on account of severe inflammation of the skin, induced

The imperfect eruption.

Bezoartics.

The mineral bezoartic.

The *fulphur auratum antimonii*.
Striking in of the measles.

When they are black or livid.

by a heating regimen, and the improper employment of warm alexipharmacs, Sydenham advises the letting of blood to prevent the accession of gangrene, which is the highest degree of inflammation. In that case, however, the skin, before inclining to black, is generally not only of a brighter red, but also swelled and tense. But if the black colour of the meates be conjoined with flaccidity of the skin itself, seeming to arise rather from a vitiated condition of the fluids, and deficient vital power of the cutaneous vessels, than from the violence of the inflammation, we must have immediate recourse to antiseptics and strengthening means, particularly the Peruvian bark, camphor, elixir of vitriol, snake-root, and the like, omitting the bleeding.

* L. c. *in cautel.* § vii.

† Störck, l. c. T. i. p. 314.

143. Discharges of blood from the nose and other parts often occur in measles, more frequently in the malignant kind, but particularly in the first and second stages. It is better to allow them to go on than to check them too soon. On which account astringents and opiates ought to be avoided *. If, however, the blood is discharged in too great quantity, occasioning paleness of the face and lips, coldness of the extremities, and weakness of the pulse; or if the patient complains of the approach

Hæmorrhages.

of vomiting or fainting, the hemorrhage must then be stopped, When they are to be stopped. both by external and internal means †. Hoffman asserts that his *liquor anodynus mineralis* proves of service in this case. He likewise describes a mixture as being of use, the base of which is spirit of vitriol and diascordium Fracastorii. For my own part I prefer water, rendered slightly acid with spirit of vitriol, and an infusion of Peruvian bark.

* Hoffman, l. c. *in cautel.* § vi.

† Rosen, l. c.

144. For alleviating the troublesome, dry, and suffocating cough, we employ a decoction of barley, and an infusion of althæa, The dry cough. of the flowers of violets, verbasum, or red poppy, adding a fourth or fifth part of milk, along with paregorics at night. Likewise oily linctuses are commonly recommended *. But if the cough is moist, while the expectoration, on account of its viscosity, comes off with difficulty, we The moist cough, with viscid expectoration. must employ inciding and attenuant remedies, such as simple oxymel, and oxymel of squills, or the syrupus erysimi of Lobelius, flowers of sulphur and benzoin, kermes mineral, and infusions of penny-royal, hyssop, veronica, tussilago †. The diarrhœa. When a looseness is also added to the violent cough, in consequence of a

part of the acrid morbillous matter irritating the intestines, a fifth part of milk, added to an infusion of alder-flowers, and taken off warm, is said to alleviate both symptoms ‡. But if a diarrhœa comes on at any time,—particularly at the present, when it might occasion the striking in of the eruption,—and becomes immoderate, it ought undoubtedly to be allayed by means of diacodium, laudanum, diascordium, theriac, rhubarb, absorbent powders, Peruvian bark, cascarilla, and the like: but especially when the diarrhœa remains after the measles have been discussed, and there is any danger of its becoming chronic.

Inflammation of
the fauces.

When the throat is painful and inflamed, I have already shewn the remedies to be employed (§130.). I may add, however, that it must be gently gargled with an emollient decoction, and that a cataplasm, with mustard-feed, must be applied around the neck, which ought to be removed on the skin becoming red ||.

* The *Eclegma oleosum* of Rosen :

℞ Vitell. ovor. n. i. ol. amygd. dulc. s. i. express. et recentifs. unc. ij. bene subact. add. decoct. hord. mund. unc. ij. fyrup. althææ unc. i.

Another which I employ :

℞ Gummi Arabici drach. ij. solvat. in emuls. sem. melon. unc. iij. deinde add. ol. amygd. dulc. recentifs. fin. ign. expressi unc. i. fs. fyrup. pap. alb. a drach. ij. ad unc. i. proportionem ætat. Detur subinde parvum cochlear.

† The formulæ of Störck :

℞ Nitri pur. drach. i. antim. diaph. non ablut. drach. i. oxy-
mel simplic. unc. i. fs. Syrup. papar. errat. unc. i. fs. Aq.
florum. sambuc. unc. viij. *M.* Dentur duo cochlear. altern.
hor. et desuper hauriatur vascul. infusi flor. Sambuc et malvæ.

Another more efficacious one of his :

℞ Nitr. pur. dr. fs. stib. diaph. non. ablut. dr. i. fs. Oxym.
scill. unc. ij. syr. flor. rhoad. unc. i. Aq. fænicul. unc. viij.
M. d. ut supra.

Another of his :

℞ Kerm. min. gr. i.
Sacchar. alb. gr. x.
M. f. pulv. tenuiss. Sumatur talis sing. duab. vel trib.
horis.

‡ Rosen, l. c. || *Id. ib.*

145. The sweats, also, with which the patients are sometimes wasted, especially in the second and third stage, claim attention. If the sheets or linen become wet with

The sweat.

them, they ought to be carefully changed. Dry and slightly warm ones must be substituted in their place, but with caution, lest the patient catch cold, or too much heat be applied. For corrugation of the skin may be produced in both ways, and the expulsion of the fomes thus prevented. The same caution ought to be used with regard to changing the bed. But particular care must be taken that the patient is not suddenly removed from a warm to a cold one. In consequence of neglecting this necessary caution, Hoffman once observed death occasioned within a few hours. At the

commencement of the third stage, when the eruption begins to disappear, we must not desist from employing the regimen and the demulcent and gently diaphoretic remedies already recommended (134.) in the cure of the benign measles; unless the accession of a critical diarrhœa be foreseen (134.). On the fever being at length overcome, and the cough rendered milder, if not entirely removed, while the exsiccation of the measles and desquamation have already taken place, the patient in general ought to be kept quiet for some days, and guard against the cold air, which is extremely hurtful †. Nay, some advise the keeping up of the cutaneous perspiration for some weeks, by diuretic infusions, spare diet, and by cooling and diluent decoctions of scorzonera-root, succory, liquorice, bark, saffrafras, and sometimes also sarsaparilla ‡, interposing once a-week purging by means of cathartics (135.) accommodated to the patient's age, temperament, and habit of body.

* L. c. *in cautel.* § viii. † Störck, l. c. p. 310. ‡ Hoffman *ib in cautel.* § ix.

SECONDARY DISEASES.

146. Of the diseases which succeed to measles, especially the malignant ones, the most frequent of all is peripneumony, which suddenly supervenes on the exsiccation of the

Peripneumony.

eruption, attended with extreme danger, and frequently proving fatal. When it happens, there is immediate occasion for letting blood, and employing the same method of treatment which is adapted to peripneumonic and pleuritic patients (136.). But, on the fever subsiding, and the pneumonic inflammation being removed, we must have recourse to *hydrogala*, to allay the cough soon, and prevent the other complaints that may be apprehended to arise from the acrimony of the morbillous poison *. Sometimes the peripneumony, if it is not resolved, terminates in suppuration. In that case the patients cough perpetually, shiver in the evening, are warm at night, and are bedewed with sweat and left weak in the morning. The expectoration at the same time is purulent. They are to be cured, like other patients labouring under suppuration, by means of whey, ptisans, and a decoction of Peruvian bark, occasionally taken. But if there be, in addition to the purulent expectoration, hoarseness, emaciation, and a slight continued slow fever, we can no longer entertain a doubt of the presence of phthisis pulmonalis. In which case, milk, diluted with some pectoral water, must be drunk frequently, to the extent of at least three pounds daily, interposing several times in the day a glass of the decoction of bark, and,

Its termination in
suppuration.

if the strength permit, employing walking, or riding in the pure air of the fields.

* Störck, l. c. p. 314. † *Id. ib.* p. 312. Rosen, l. c.

147. Nor is it an uncommon thing, after the exsiccation and drying of the measles, for a continued remittent fever, or amphimerina, to be left behind, without any symptom of suppuration, or ulceration of the lungs, which, if it is neglected, either becomes an acute one, and suddenly proves fatal, or readily passes into an hectic, by which the patient is slowly cut off. Morton says that it may be easily checked by employing the Peruvian bark.

The cough. The cough, likewise, after the desquamation of the measles, sometimes continues extremely obstinate. Though it be easily overcome by pectorals, or gradually goes off of its own accord*, after the benign measles; yet, when it succeeds to the malignant, it is both of longer duration, and more severe and dangerous, on account of its very frequently passing into phthisis pulmonalis. It must, therefore, be opposed first by bleeding, sometimes even repeated, then by pectorals, and the Peruvian bark given liberally, and in the evening by paretics. And it is not unfrequently removed by interposing cathartics †.

* Sydenham.

† Morton.

148. Nor is the diarrhœa, which is left by the measles, less troublesome and obstinate. It ought to be treated first with toasted rhu-
 barb, myrobalans, and the fixed The diarrhœa.
 alkaline powders, then with paregorics containing opium, Peruvian bark, cascarilla, and other antiseptic strengthening remedies *. The eyes also do not escape free from their peculiar disorders. At the departure of the
Ophthalmia.
 measles they are often attacked with the most violent ophthalmia. When it is but slight, they receive great relief from the application of leeches to the temples, or below the eyes †. When it is more severe, however, it is necessary to open the jugular vein ‡; and afterwards to purge the belly repeatedly. Morton is of opinion that blisters in this case are of no service; while Rosen puts no small faith in them, provided they be applied small to each ear. He likewise asserts, that dry cupping-glasses prove serviceable. A cataplasm of the pulp of sweet apples, roasted and beat up with new milk, applied externally, has a wonderful effect in allaying the pain, and resolving the inflammation. Some add a little camphor, but it is not easily borne, unless after the inflammation has been diminished, and the pain completely removed.

* Morton, l. c.

† Rosen, l. c.

‡ Morton, l. c.

149. Among the diseases which are the sequel of the imperfect resolution of measles, Morton likewise enumerates glandular swellings, anasarca, and ascites. For discussing the swelling and induration of the glands, resolving means, attenuants, and sudorifics, are proper; nor are external emollient and gently discutient applications improper. Among these the principal are, calomel, diagrydium, millipedes, and a decoction of sarsaparilla, burdock, bark-root, and the like. In the case of anasarca and ascites, after employing gentle cathartics and diuretics, chalybeates are said to be found serviceable, occasionally interposing gentle cathartics given *per epicrasin*; as rhubarb, tinctura sacra, the *pilulæ tartareæ* of Bontius, those of Becher, the *pilulæ scilliticæ* of the Edinburgh Dispensatory, and the like. But enough of these for the present. Whoever desires more ample information may consult what is delivered under the head of each disease.

* Morton, l. c.

THE ANOMALOUS MEASLES.

150. It remains for me to say something of the anomalous measles, of which I made mention already (114.). For although I then shewed that the anomalous, or irregular measles, are taken by most for the malignant ones, and

In what the anomalous differs from the malignant disease.

that there is no difference between them ; yet, as I then observed, it appears to me that that name applies more properly to that species of measles which recedes most from the ordinary course of the complaint. Nor do the measles, which are anomalous in this sense, always shew the other marks of the malignant kind in such a manner as to agree intirely with it. For it has been occasionally observed, in some cases of this kind of anomalous measles, that, on the eruption happening, all the symptoms, and the fever itself, have immediately subsided, which I have already shewn to be the most characteristic mark of the benign species. Hence I am inclined to believe, that such an anomaly may occur both in the malignant and benign measles, and that it ought to be considered as an occasional variety of both of them.

151. But to place the matter in a clearer light, it will be very proper to take a survey of the anomalies which occurred pretty commonly at Florence in the epidemic ^{Instances of anomalies.} of 1749 and 1750, as remarked by that very profound and able physician Tezzetti *. In the first place, he mentions, that in seven patients, after the usual preceding symptoms, a pretty thick eruption took place ; but that on the very same day some slight pains arose in the epigastric region, which seemed to be spasmodic,

and that they were in a short time removed by a copious, thin, and bilious diarrhœa, which continued gently, and without any other symptom, for about two days: That immediately on the accession of the diarrhœa the measles disappeared; that the fever and cough, which was extremely troublesome before, subsided intirely; nor, after the diarrhœa stopt, did any inconvenience, except some degree of weakness, remain. He next learnt that the fever preceding the eruption at one time resembles the type of a double tertian, and, on the eruption taking place, wholly disappears; that at another it repeats its courses periodically for several days before the eruption breaks out, which happens chiefly in adults. He moreover sometimes saw in other patients the fever of the first stage, like catarrhal fevers, and indeed acute ones, accompanied with swelling and redness of the throat, and a terrible cough, extended to the seventh day before the appearance of the eruption,—which I have already said is sometimes peculiar to the malignant kind,—and not leave the patients till other four or five days, when the exsiccation and resolution of the measles took place.

* *Prim. Raccolta d'osserv.* p. 101.

152. Lastly, he gives an account of the irregular measles, which, as being of rare occurrence,

deserves to be recorded. A very respectable lady, Maria Brigida Dandini, fearing that she and her children would be attacked with measles, which then prevailed in the part of the country where she resided, never having experienced the disease before, on the 4th of November 1750 removed along with her family to Florence. On the night of the day when she came to town, she was attacked immediately after midnight with a fever, accompanied with great cold, succeeded by a similar accession next day, immediately after noon; in such a manner that there were not only two accessions within the twenty-four hours, but they returned periodically for twenty-four days, in all respects resembling a double remitting quotidian. Every accession commenced with cold, which was more intense, however, in the nocturnal ones, and they were always accompanied with convulsive cough, and some difficulty of breathing. Some of them were so much milder and shorter than others, that at times they seemed to have an intermission; although, in general, succeeding each other without any apyrexia, they rendered the fever perfectly continued. But as there were no symptoms of measles, the fever was opposed, though unsuccessfully, by two bleedings, diluents and correctives in great abundance; and, lastly, by the Peruvian bark.

An account of the irregular, but benign species.

Nor did the appearance of the catamenia, which came on about the middle of the disease, prove of any service. As the patient, therefore, in twenty-four days had experienced exactly forty-eight paroxysms, in the beginning of the twenty-fifth day, precisely at one in the morning, the accession, as usual, attacked her with such violence, being accompanied with great cold, convulsions, extreme agitation, anxiety, and a constant suffocating cough, that her husband Tozzetti was extremely apprehensive of a very violent peripneumonia coming on. On which account, when he was deliberating at day-break about repeating the bleeding, the whole skin was found covered with measles. He then entertained hopes that the disease would be resolved by this excretion. And, indeed, as the eruption,—which was very full and thick,—proceeded all the terrible symptoms, which I have already mentioned, were gradually allayed, and towards the end of the fourth day from the commencement of the eruption, the exsiccation and desquamation of the measles beginning to take place, the fever, cough, and every other troublesome symptom, disappeared, leaving behind them only the usual weakness. This case of measles may be named *anomalous*, but not *malignant*, because, as happens in the benign kind, on the eruption taking place, the fever along with the other symptoms ceased.

153. That the want of a case of anomalous malignant measles may not be regretted, I shall subjoin another case of measles, not less irregular, taken from the same author*, the first stage of which A case of anomalous, but malignant measles. was not only very long and unusual, but the second also, in which the eruption took place about the back first, as is generally the case in malignant measles, was much more severe. A nun, of twenty-four years of age, of a very robust habit of body, in February 1750, was attacked with a convulsive cough, which grew worse daily. About the end of the same month she began to be affected with slight fever, during the accessions of which she complained of confusion of the head, unusual dryness and stricture at the chest, rendering the respiration difficult. These attacks of fever growing worse, and the cough being so much increased, that on the seventh of March it occasioned a great discharge of blood from the nose; a vein was opened in the foot, though without any relief to these symptoms. Nay, the symptoms still continuing to grow worse daily, at length, on the thirteenth of the same month, her back appeared covered with red spots. The physician began to suspect the presence of measles, although she was said to have already laboured under them twice;

and he was led the rather to suspect this, on account of others of the sisterhood in the same nunnery, and at the same time, having been attacked with the same disease a second, and even a third time. Towards the evening of the fourteenth day, as the spots appeared distinct, although they were mixed with other pustules, to which she had been subject, the physician remained no longer in doubt. The face, in particular, was very full of them. The skin, here and there, verged on a violet and red colour. The fever raged with extreme violence. The cough was more urgent, accompanied with anxiety, and intolerable pain at the chest. As these symptoms did not abate next day, which was the fifteenth, seven ounces of blood were taken from the arm, and it was found to be very inflammatory. On the eighteenth the spots began to become pale, and the urine, which for some days before had been passed very sparingly, was now voided in greater quantity. But the violence of the fever remained without any alleviation, while the cough and pain of the breast continued even to the twenty-ninth day; the measles recurring occasionally even afterwards. She at last recovered from the complaint, but not until she had laboured a long time under a very bad state of health.

* *Id. ib.* p. 105.

THE MEASLES, UNACCOMPANIED WITH AN ERUPTION.

154. In the same manner as small-pox occur without pustules, according to the observations of the most experienced practitioners, being attended Measles unattended with an eruption. merely with the variolous fever, as will be hereafter shewn; so the morbillous fever, or measles without the eruption, it is said occasionally happens during the epidemic prevalence of the complaint. Nay, we have the authority of De Haën, that such fevers are of frequent occurrence, and that they really merit the name of *morbillous*, because they attack in the same manner, are accompanied with the same symptoms, and proceed as if the measles were about to break out, but do not *. The most convincing argument that they are so in fact is afforded, not only by the actual presence of measles prevailing epidemically, and by all the symptoms peculiar to the first stage of the complaint, with which they are attended, but also by the method of cure, to which they yield, which is precisely the same as that which is calculated for measles. But the matter of fact is so firmly established by observation as to be placed beyond all dispute. Nor is Why the eruption sometimes does not happen. it a thing that admits of no probable explanation; for, if the morbillous miasma, which on being taken into the symptom created the fever, when forced to the surface finds a

ready outlet, by which it is exhaled without delay, or of itself is so thin, and probably so diluted with watery fluid, as to be evaporated without injury to the perspiratory pores; or if, without going to the skin, it secretly escapes to the bowels, or kidneys, and is excreted by them; a reason may be easily assigned to account for the measles sometimes occurring unaccompanied with an eruption.

* De Haën. *Febr. div. div.* vi. § vi.

THE FEBRIS MORBILLOSA OF SYDENHAM.

155. In the year 1674, when the malignant, or anomalous, measles prevailed epidemically, a fever, which Sydenham called *febris morbillosa* *, prevailed sporadically.

The febris morbillosa.

It was very severe, but evidently of the same kind as that in measles, and was prolonged for fourteen days, nay, sometimes even beyond that period. In it an eruption appeared, similar to measles, upon the trunk of the body, particularly upon the back of the neck and shoulders. Besides, it required just the same method of treatment to which the measles yielded. But because it did not occupy the whole body, as the regular measles do, it therefore appeared that there was some difference between them and it. But so

It does not differ from the measles, unless in appearance.

slight does this difference appear, compared with the other symptoms of measles already enumerated, that I have no manner of doubt of its

having been in fact a particular variety of the anomalous and malignant measles.

* *Oper. sect. v. c. 3. p. 267.*

156. The *rubeola variolodes* of Sauvages * by no means belongs to the measles, as not only he himself is disposed to believe that it is a particular species, or variety of small-

The *rubeola variolodes* of Sauvages.

pox, but the description of it given by Buxer †, and quoted by Sauvages, shews that it is so in fact. For it immediately appears from it, that this disease differed very widely from measles, and approached more nearly to small-pox. Likewise Douglas has described a disease ‡, which is named by Sauvages *rubeola anginosa*, which appears to me rather to have been a malignant aphthous angina, accompanied with the miliary eruption, than any species of measles.

The *rubeola anginosa* of the same author.

† *Nosol. meth. cl. 3. ord. i. gen. iv. spec. 3.* † *Journ. de Méd. T. ix. p. 81.* ‡ *Edinb. med. essays, vol. iv.*

The INOCULATION of the MEASLES.

157. In imitation of the inoculation of small-pox, that of measles also has been attempted. Dr Home of Edinburgh is said to be the first who tried it *. It is instituted without any previous preparation. Some cotton is tinged with the

blood taken from any part covered with the eruption, by means of a small opening. The cotton is bound by a ligature to a small wound made in each arm of the person to be inoculated. Perhaps, also, without any opening made in the skin, the cotton thus tinged and bound to the bare arm would communicate the contagion with equal certainty. Others, instead of the blood, employ the saliva, or tears discharged by the patients during the time of the crisis ; or the small scales that fall off from their body ; for in all these ways the contagion is said to be communicated. On the sixth day after the inoculation a gentle fever generally arises, accompanied with a very slight cough, without drowsiness and inflammatory symptoms ; and neither do hectic fever, nor cough, nor inflammation of the eyes, usually succeed to the complaint ‡. They therefore contend, that a very mild complaint, accompanied with very slight symptoms, arise from it. Nevertheless the inoculation of the measles has had so few followers, that it has at length fallen into almost total disuse. Dubosque de la Roberdiere || considers it as the cause of measles being said to have returned more than once in the same person. Vogel §, however, thinks that it is neither useless, nor to be condemned, in the case of a pestilential epidemic, in which, as the danger is very great, so it is proper by all means to render

the disease milder, which it seems highly probable may be obtained by inoculation.

* *Princip. Med.* lib. 2. sect. 8. † Alex. Monro jun. *On the Lymphatics.* Vogel *De cogn. et curand. hum. corp. affect.*
 § 135. ‡ Home, l. c. || *Journ. de Med.* T. 47.
 p. 254. § L. c.



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